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Energy Tidbits

Vitol: Absent Massive Oil Demand Destruction, the Supply Cushion from OPEC Will Be at a Point Which is Alarming

Produced by: Dan Tsubouchi

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Dan Tsubouchi
Principal, Chief Market Strategist
dtsubouchi@safgroup.ca

Ryan Dunfield
Principal, CEO
rdunfield@safgroup.ca

Aaron Bunting
Principal, COO, CFO
abunting@safgroup.ca

Ryan Haughn
Principal, Energy
rhaughn@safgroup.ca

Whistler Pipeline expansion reaches final investment decision
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Whistler Pipeline expansion reaches final investment decision

PR Newswire

FINDLAY, Ohio, May 2, 2022

FINDLAY, Ohio , May 2, 2022 /PRNewswire/ -- MPLX LP (NYSE: MPLX), WhiteWater Midstream, and a joint venture between Stonepeak Infrastructure Partners and West Texas Gas, Inc. have reached a final investment decision to move forward with the expansion of the Whistler Pipeline after having secured sufficient firm transportation agreements with shippers.

The Whistler Pipeline expansion will increase the mainline capacity from 2 billion cubic feet per day (Bcf/d) to 2.5 Bcf/d through the planned installation of three new compressor stations. The expansion is expected to be in service in September 2023.

"The decision to move forward with this expansion project after securing sufficient commitments from shippers demonstrates our disciplined approach to investing," said Timothy J. Aydt, MPLX executive vice president and chief commercial officer. "Whistler has demonstrated its ability to provide reliable and cost-efficient residue gas transportation out of the Permian Basin, which is vital to our growing gas processing position, producers in the region, and gas customers."

The Whistler pipeline is an approximately 450-mile, 42-inch diameter intrastate pipeline that transports natural gas from the Waha Header in the Permian Basin to Agua Dulce, Texas, providing direct access to South Texas and export markets. An approximately 85-mile, 36-inch diameter lateral provides connectivity to the Midland Basin.

About MPLX LP
MPLX is a diversified, large-cap master limited partnership that owns and operates midstream energy infrastructure and logistics assets and provides fuels distribution services. MPLX's assets include a network of crude oil and refined product pipelines; an inland marine business; light-product terminals; storage caverns; refinery tanks, docks, loading racks, and associated piping; and crude and light-product marine terminals. The company also owns crude oil and natural gas gathering systems and pipelines as well as natural gas and NGL processing and fractionation facilities in key U.S. supply basins. More information is available at www.mplx.com.

https://lngir.cheniere.com/news-events/press-releases/detail/247/cheniere-corpus-christi-stage-iii-and-arc-resources-sign

Cheniere Corpus Christi Stage III and ARC Resources Sign Long-Term Integrated Production Marketing Transaction

Download as PDF MAY 04, 2022 7:43AM EDT

HOUSTON--(BUSINESS WIRE)-- Cheniere Energy, Inc. ("Cheniere") (NYSE American: LNG) announced today that its subsidiary, Corpus Christi Liquefaction Stage III, LLC ("Corpus Christi Stage III"), has entered into a long-term Integrated Production Marketing ("IPM") gas supply agreement with ARC Resources U.S. Corp ("ARC U.S."), a subsidiary of ARC Resources, Ltd. (TSX: ARX), a leading natural gas producer in Canada.

Under the IPM agreement, ARC U.S. has agreed to sell 140,000 MMBtu per day of natural gas to Corpus Christi Stage III for a term of 15 years, commencing with commercial operations of Train 7 of the Corpus Christi Stage III Project. The LNG associated with this gas supply, approximately 0.85 million tonnes per annum ("mtpa"), will be marketed by Cheniere. Cheniere will pay ARC U.S. an LNG-linked price for its gas, based on the Platts Japan Korea Marker (JKM), after deductions for fixed LNG shipping costs and a fixed liquefaction fee. ARC Resources, Ltd. will act as guarantor of the IPM agreement on behalf of ARC U.S. The IPM agreement is subject to Corpus Christi Stage III making a positive final investment decision to construct the Corpus Christi Stage III Project.

"We are pleased to enter into this long-term IPM agreement with one of Canada's largest natural gas producers, enabling Canadian natural gas to reach international markets," said Jack Fusco, Cheniere's President and CEO. "This commercial agreement further demonstrates Cheniere's ability to create collaborative, innovative tailored solutions that meet the needs of our customers. This IPM agreement with ARC U.S. is expected to provide additional support to the Corpus Christi Stage III Project, which we expect to reach FID this summer."

The Corpus Christi Stage III Project is being developed to include up to seven midscale liquefaction trains with a total expected nominal production capacity of over 10 mtpa.

About Cheniere

Cheniere Energy, Inc. is the leading producer and exporter of liquefied natural gas (LNG) in the United States, reliably providing a clean, secure, and affordable solution to the growing global need for natural gas. Cheniere is a full-service LNG provider, with capabilities that include gas procurement and transportation, liquefaction, vessel chartering, and LNG delivery. Cheniere has one of the largest liquefaction platforms in the world, consisting of the Sabine Pass and Corpus Christi liquefaction facilities on the U.S. Gulf Coast, with total production capacity of approximately 45 million tonnes per annum of LNG in operation. Cheniere is also pursuing liquefaction expansion opportunities and other projects along the LNG value chain. Cheniere is headquartered in Houston, Texas, and has additional offices in London, Singapore, Beijing, Tokyo, and Washington, D.C.

For additional information, please refer to the Cheniere website at www.cheniere.com and Quarterly Report on Form 10-Q for the quarter ended March 31, 2022, filed with the Securities and Exchange Commission.

About ARC

ARC Resources Ltd. is a pure-play Montney producer and one of Canada's largest dividend-paying energy companies, featuring low-cost operations and leading ESG performance. ARC's investment-grade credit profile is supported by commodity and geographic diversity and robust risk management practices around all aspects of the business. ARC's common shares trade on the Toronto Stock Exchange under the symbol ARX.

https://investors.next-decade.com/news-releases/news-release-details/nextdecade-and-engie-execute-175-mtpa-lng-sale-and-purchase

MAY 2, 2022

NextDecade and ENGIE Execute 1.75 MTPA LNG Sale and Purchase Agreement

HOUSTON--(BUSINESS WIRE)--May 2, 2022-- NextDecade Corporation (“NextDecade”) (NASDAQ: NEXT) announced today the execution of a 15-year sale and purchase agreement (“SPA”) with ENGIE S.A. (“ENGIE”) for the supply of liquefied natural gas (“LNG”) from NextDecade’s Rio Grande LNG export project (“RGLNG”) in Brownsville, Texas.

Under the SPA, ENGIE will purchase 1.75 million metric tonnes per annum (“MTPA”) of LNG on a free-on-board (“FOB”) basis. The LNG supply will be from the first two trains of Rio Grande LNG, with the first train expected to start commercial operations as early as 2026.

NextDecade aims to reduce CO_2 emissions from RGLNG by more than 90 percent via carbon capture and storage. Combined with responsibly sourced gas and the use of net-zero electricity, NextDecade intends to produce a lower carbon-intensive LNG for its customers.

“We are pleased to announce this SPA with ENGIE, a significant European energy supplier and leader in the global transition toward lower carbon energy solutions,” said Matt Schatzman, NextDecade’s Chairman and Chief Executive Officer. “The signing of this SPA is an important step in showing our commitment in the areas of environmental stewardship, social responsibility, and

governance best practices, while upholding the LNG industry's highest standards. It also shows how we can help meet our buyers' climate change initiatives, while providing them access to secure energy supply."

Assuming the achievement of further LNG contracting and financing, NextDecade anticipates making a positive final investment decision ("FID") on a minimum of two trains of the Rio Grande LNG export project in the second half of 2022, with FIDs of its remaining three trains to follow thereafter.

About NextDecade Corporation

NextDecade Corporation is an energy company accelerating the path to a net-zero future. Leading innovation in more sustainable LNG and carbon capture solutions, NextDecade is committed to providing the world access to cleaner energy. Through our wholly owned subsidiaries Rio Grande LNG and NEXT Carbon Solutions, we are developing a 27 MTPA LNG export facility in South Texas along with one of the largest carbon capture and storage projects in North America. We are also working with third-party customers around the world to deploy our proprietary processes to lower the cost of carbon capture and storage and reduce CO_2 emissions at their industrial-scale facilities. NextDecade's common stock is listed on the Nasdaq Stock Market under the symbol "NEXT." NextDecade is headquartered in Houston, Texas. For more information, please visit www.next-decade.com.

https://ir.energytransfer.com/news-releases/news-release-details/energy-transfer-signs-lng-sale-and-purchase-agreement-gunvor

ENERGY TRANSFER SIGNS LNG SALE AND PURCHASE AGREEMENT WITH GUNVOR
May 2, 2022 at 12:30 PM EDT
PDF Version

Energy Transfer LNG Export to supply LNG to Gunvor Singapore Pte from its Lake Charles LNG Export Facility Under 20-year Agreement

DALLAS & SINGAPORE--(BUSINESS WIRE)--May 2, 2022-- **Energy Transfer LP (NYSE: ET)** and Gunvor Group Ltd today announced that Gunvor Singapore Pte Ltd (Gunvor) has entered into an LNG Sale and Purchase Agreement with Energy Transfer LNG Export, LLC (Energy Transfer LNG), a subsidiary of Energy Transfer LP, related to its Lake Charles LNG project.

This press release features multimedia. View the full release here: https://www.businesswire.com/news/home/20220502005601/en/

Under the SPA, Energy Transfer LNG will supply 2 million tonnes of LNG per annum to Gunvor on a free-on-board (FOB) basis. The purchase price is indexed to the Henry Hub benchmark plus a fixed liquefaction charge. The SPA is for a term of 20 years, and first deliveries are expected to commence as early as 2026. The SPAs will become fully effective upon the satisfaction of the conditions precedent, including Energy Transfer LNG taking final investment decision (FID).

“We are pleased to partner with Energy Transfer, which is a significant step in executing Gunvor’s overall strategy of uncovering and securing low-cost resources and implementing competitive and reliable deliveries to our LNG buyers. We look forward to a successful, long-term relationship with the Energy Transfer team as their project continues to progress,” said Kalpesh Patel, Co-Head of LNG Trading of Gunvor.

“Gunvor is a well-known participant in the LNG industry, and we are excited to have them as a customer,” said Tom Mason, President of Energy Transfer LNG. “Gunvor’s commitment to Lake Charles further evidences the progress we are making towards taking FID by year end.”

Energy Transfer is one of the largest and most diversified midstream energy companies in North America, with a strategic footprint in all of the major U.S. production basins. Energy Transfer's Lake Charles LNG export facility will be constructed on the existing brownfield regasification facility and will capitalize on four existing LNG storage tanks, two deep water berths and other LNG infrastructure. Lake Charles LNG will also benefit from its direct connection to Energy Transfer’s existing Trunkline pipeline system that in turn provides connections to multiple intrastate and interstate pipelines. These pipelines allow access to multiple natural gas producing basins, including the Haynesville, the Permian and the Marcellus Shale.

About Gunvor

Gunvor is one of the world’s largest independent commodities trading houses by turnover, creating logistics solutions that safely and efficiently move physical energy from where it is sourced and stored to where it is demanded most. Gunvor has strategic investments in industrial infrastructure—refineries, pipelines, storage and terminals—that complement our core trading activity and generate sustainable value across the global supply chain for our customers. The company, which in 2021 generated US $135 billion in revenue on 240 million MT of volumes, is the leading independent global trader of liquefied natural gas (LNG).

About Energy Transfer

Energy Transfer LP (NYSE: ET) owns and operates one of the largest and most diversified portfolios of energy assets in North America, with a strategic footprint in all of the major U.S. production basins. Energy Transfer is a publicly traded limited partnership with core operations that include complementary natural gas midstream, intrastate and interstate transportation and storage assets; crude oil, natural gas liquids (NGL) and refined product transportation and terminalling assets; and NGL fractionation. Energy Transfer also owns Lake Charles LNG Company, as well as the general partner interests, the incentive distribution rights and 28.5 million common units of Sunoco LP (NYSE: SUN), and the general partner interests and 46.1 million common units of USA Compression Partners, LP (NYSE: USAC).

https://ir.energytransfer.com/news-releases/news-release-details/energy-transfer-signs-lng-sale-and-purchase-agreement-sk-gas

ENERGY TRANSFER SIGNS LNG SALE AND PURCHASE AGREEMENT WITH SK GAS TRADING LLC

May 3, 2022 at 12:40 PM EDT
PDF Version

Energy Transfer LNG Export to Supply LNG to SK Gas Trading LLC from its Lake Charles LNG Export Facility Under 18-Year Agreement

DALLAS--(BUSINESS WIRE)--May 3, 2022-- **Energy Transfer LP (NYSE: ET)** today announced the execution of a long-term Sale and Purchase Agreement (SPA) with SK Gas Trading LLC (SK Gas) for the supply of 0.4 million tonnes per annum (mtpa) of LNG from Energy Transfer's Lake Charles LNG export facility.

Under the SPA, Energy Transfer LNG Export, LLC (Energy Transfer LNG) will supply LNG to SK Gas on a free-on-board (FOB) basis. The purchase price is indexed to the Henry Hub benchmark plus a fixed liquefaction charge. The SPA is for a term of 18 years, and first deliveries are expected to commence as early as 2026. The SPA will become fully effective upon the satisfaction of the conditions precedent, including Energy Transfer LNG taking final investment decision (FID).

This is Energy Transfer's fourth SPA announced in the last four weeks, bringing the total amount of LNG contracted from its Lake Charles LNG export facility to 5.1 mtpa.

"We are excited to announce SK Gas as our first Korean offtake customer," said Tom Mason, President of Energy Transfer LNG. "We look forward to a long-term relationship with SK Gas as it grows its domestic and international LNG business. We are also pleased with the level of interest in our Lake Charles LNG export project from international customers who need LNG supply and from domestic natural gas producers who will benefit from expanding U.S. exports of natural gas. These factors increase our confidence for taking FID by the end of this year."

Energy Transfer is one of the largest and most diversified midstream energy companies in North America, with a strategic footprint in all of the major U.S. production basins. Energy Transfer's Lake Charles LNG export facility will be constructed on the existing brownfield regasification facility and will capitalize on four existing LNG storage tanks, two deep water berths and other LNG infrastructure. Lake Charles LNG will also benefit from its direct connection to Energy Transfer's existing Trunkline pipeline system that in turn provides connections to multiple intrastate and interstate pipelines. These pipelines allow access to multiple natural gas producing basins, including the Haynesville, the Permian and the Marcellus Shale.

About Energy Transfer

Energy Transfer LP (NYSE: ET) owns and operates one of the largest and most diversified portfolios of energy assets in North America, with a strategic footprint in all of the major U.S. production basins. Energy Transfer is a publicly traded limited partnership with core operations that include complementary natural gas midstream, intrastate and interstate transportation and storage assets; crude oil, natural gas liquids (NGL) and refined product transportation and terminalling assets; and NGL fractionation. Energy Transfer also owns Lake Charles LNG Company, as well as the general partner interests, the incentive distribution rights and 28.5 million common units of Sunoco LP (NYSE: SUN), and the general partner interests and 46.1 million common units of USA Compression Partners, LP (NYSE: USAC).

About SK Gas Trading LLC

SK Gas Trading LLC. is the US trading entity of SK Gas and has been exporting and trading LPG out of US since 2015. SK Gas is a leading provider of liquefied petroleum gas in Korea and is expanding its business to include LNG by constructing an LNG import terminal in Ulsan, Korea. Construction of this terminal is expected to be complete by the end of 2024 and, upon commercial operation, will supply LNG for power generation and industrial applications. SK Gas is an affiliate of SK Group, an international energy, chemicals and industrial conglomerate headquartered in Seoul, Korea.

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

Posted Wednesday April 28, 2021. 9:00 MT

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

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

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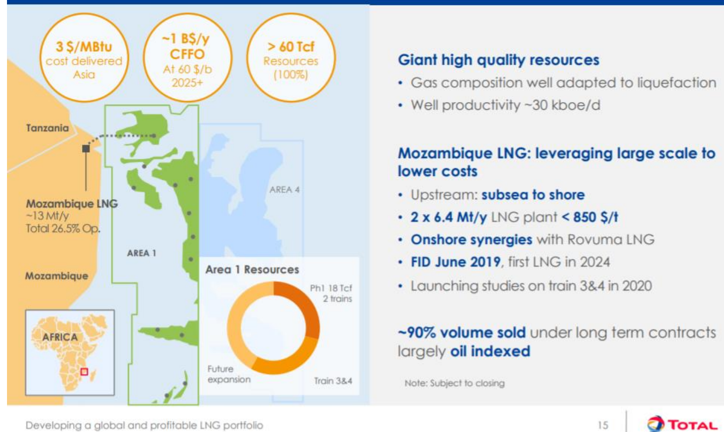
Total Mozambique Phase 1 and 2



Source: Total Investor Day September 24, 2019

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

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

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

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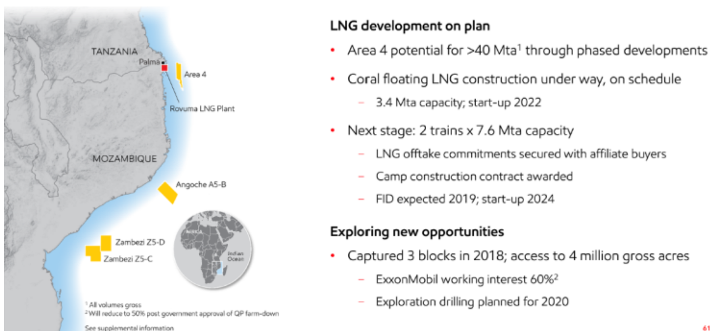
continuing thru the 2020s. And we believe all LNG forecasts included this 5.0 bcf/d to be in service in the 2020s as Mozambique had been considered the best positioned LNG supply to access Asia after Australia and Papua New Guinea. (i) Eni Coral Sul (Rovuma Basin) FLNG of 0.45 bcf/d planned in service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

Exxon Mozambique LNG



Source: Exxon Investor Day March 6, 2019

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

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

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

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

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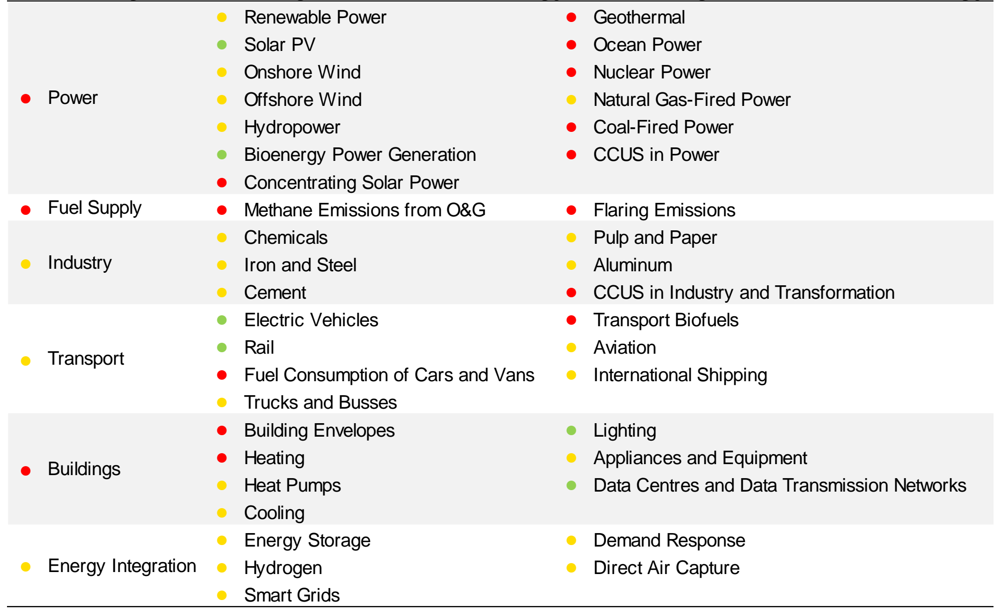
We expect the IEA's blunt message that the gap is getting wider will be reinforced on May 18. We have had a consistent view on the energy transition for the past few years. We believe it is going to happen, but it will take longer, be a bumpy road and cost more than expected. This is why we believe the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

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



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

Source: IEA

On Track   More Efforts Needed   Not on Track

Source: IEA Tracking Clean Energy Progress, June 2020

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

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

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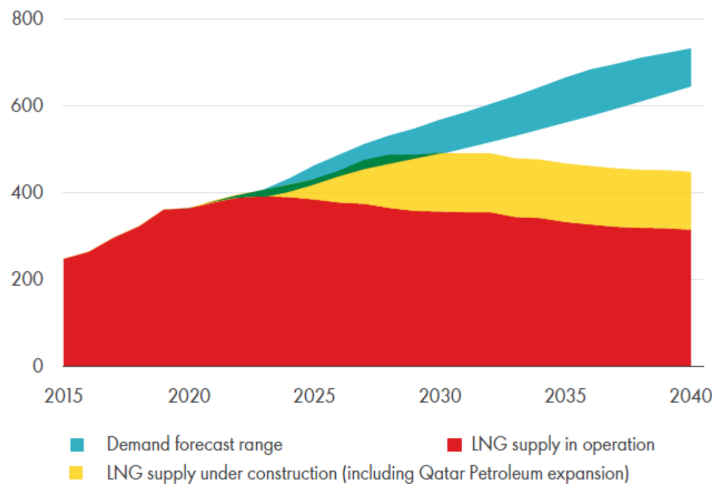
would have reflected some delay, perhaps 1 year, at Mozambique but would be surprised if they put a 2-3 year delay in for the 5 bcf/d from Total Phase 1 +2 and Exxon Rozuma Phase 1. Compared to their LNG Outlook 2020, it looks like there was no change for their estimate of global natural gas demand growth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

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



Source: Shell LNG Outlook 2021, Feb 25, 2021

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

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

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

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

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

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

Posted 11am on July 14, 2021

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

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

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

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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.*

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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

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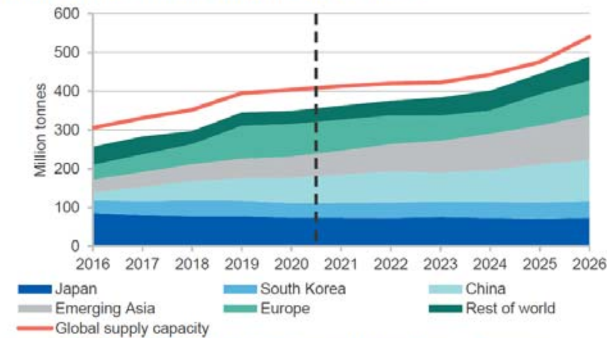
demand that we highlight later in the blog. They didn't say anything else specific on Mozambique but, surely they have to also be delaying the follow on Total Phase 2 of 1.3 bcf/d and Exxon Rozuma Phase 1 of 2.0 bcf/d.

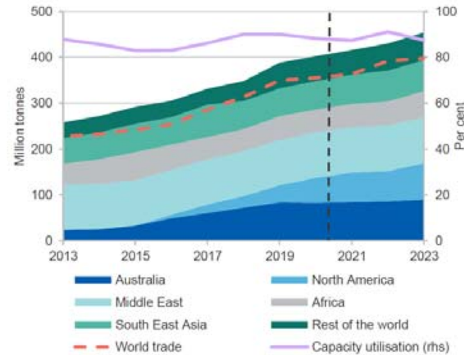
Australia's LNG Outlook: March 2021 vs June 2021 Forecasts

March 2021 LNG Outlook



Source: Nexant (2021) World Gas Model; Department of Industry, Science, Energy and Resources (2021)

June 2021 LNG Outlook



Source: Nexant (2021) World Gas Model; Department of Industry, Science, Energy and Resources (2021)

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.*"

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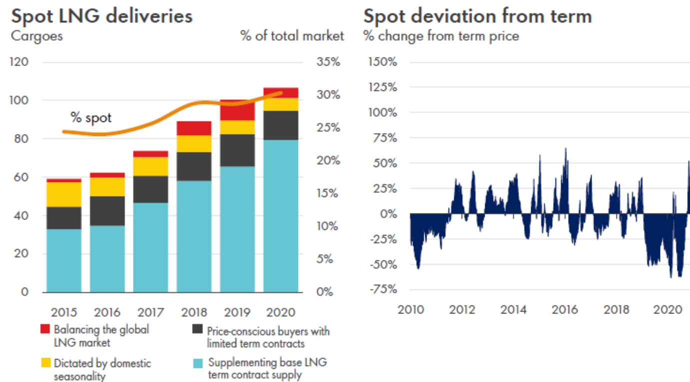
Spot LNG deliveries and Spot deviation from term price



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.

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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%*

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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.

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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.

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https://pib.gov.in/PressReleasePage.aspx?PRID=1823164

Ministry of Power

STATUS OF IMPORT OF COAL FOR BLENDING IN THERMAL POWER PLANTS WITH STATES REVIEWED

SHRI R. K. SINGH ADVISES STATES TO PLACE ORDERS FOR COAL IMPORT

DOMESTIC COAL WOULD BE SUPPLIED TO ALL GENCOS IN PROPORTION TO THE COAL RECEIVED FROM COAL COMPANIES

TAMIL NADU AND MAHARASHTRA HAVE PLACED ORDERS FOR COAL IMPORT

PUNJAB AND GUJARAT ARE IN THE ADVANCED STAGE OF FINALISING TENDERS

STATES NEED TO TAKE ACTIONS TO ENSURE COAL SUPPLY TO POWER PLANTS BY ENSURING OFF-TAKE IN RAIL-CUM-ROAD (RCR) MODE: POWER MINISTER

Posted On: 06 MAY 2022 11:26AM by PIB Delhi

Shri. R.K. Singh, Union Minister of Power & NRE reviewed the status of import of coal for blending in the thermal power plants with the States. Secretary (Power) Shri Alok Kumar, Senior officials of the State Governments, and Gencos were present in the meeting held virtually yesterday. The Minister highlighted the importance of importing coal for blending in the thermal power plants, in view of the constraints in domestic coal supply to meet the increased demand. The states were advised to place orders for import of coal for blending purpose so that the additional coal reaches power plants from the month of May 2022 itself. Hon'ble Minister stated that the domestic coal would be supplied to all GENCOS in proportion to the coal received from coal companies. He further advised the States to increase the output from the captive mines to meet their coal requirements which will help in reducing the burden on the linkage coal. He emphasized that States need to take actions to ensure coal supply to their power plants by ensuring off-take in the Rail-cum-Road (RCR) mode to meet the shortfall in coal requirement at their power plants and stated that in the event of States not lifting the RCR coal it would be de-allocated and offered to other States and the concerned States would be responsible for any shortages and consequent power-shortages in their States.

As per the data presented by CEA in the meeting, it was noted that the States of Tamil Nadu and Maharashtra have placed orders for the import of coal, while Punjab and Gujarat are in the advanced stage of finalisation of the tenders; and the other States need to put extra efforts to import the coal for blending at their power plants in time. The States of Rajasthan, Madhya Pradesh are in the process of issuing the tenders. Haryana, Uttar Pradesh, West Bengal, Odisha and Jharkhand have not yet issued

tender or taken any significant actions for the import of coal and were advised to take necessary actions to ensure coal supply to their power plants.

The Status of RCR was also deliberated upon and it was seen that the progress of Andhra Pradesh, Karnataka, Madhya Pradesh, West Bengal, Haryana and Uttar Pradesh on lifting the allotted coal was not satisfactory. These states were advised to expedite lifting this coal, failing which this RCR coal would be allocated to other GENCOS which need it.

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NG/IG

SAF Group created transcript of excerpts from Shell's Q1 call on May 5, 2022. Speakers were CEO Ben van Beurden, CFO Sinead Gorman and Integrated Gas, Renewables and Energy Solutions Director Wael Sawan.
https://webcast.shell.com/live/7b36f0e4-3e52-437b-801d-10fa2d43ca67/public/

Items in "italics" are SAF Group created transcript

At 7:44am MT, Shell is asked about how quickly Europe can achieve energy independence. Shell CEO van Beurden replies. "*as you can imagine, we've been talking an awful lot with policymakers over the last few months at the highest levels in multiple countries, and I think my message consistently has been make sure you really understand what you are doing. It's not for us to say you know politically, this is appropriate or whatever else. What Europe needs to do needs to be decided by Europe's elected leadership. But we have been very clear to point out that these are the things that could be a consequence of that decision, or here are levers you can pull. Or if you want to pull this particular lever, please be mindful there are different ways in which you can pull it - a good way or a not so good way. What you will have seen so far, which I believe is probably objectively also true Europe I think has acted in a very measured way to the crisis. Of course for some, that is not enough, we should have done more in Europe and etc. but I do believe European leaders have acted in a very measured and controlled way. And that is partly also because they realize its very tough to go cold turkey on say Russian crude oil but even moreso on Russian gas. I think the measures that are now being talked about. Let's focus on the gas because crude in a way an easier story. The measures that are being talked about is can we bring more liquefaction or regasification capacity, also can we think of more pipeline supply from northern Africa, Scandinavian market, from Norway, I think they are sensible things to do. But it will inevitably also require an acceleration of the energy transition for the mid-term because there is now way we can just bring more pipeline gas or bring more LNG and somehow replace all the Russian gas we currently consume. That is simply unfeasible. And I think we have to go significantly into energy conservation matters and strategies*. "

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

At 7:50am MT, Shell is asked if they are seeing demand destruction in their products. CEO van Beurden's reply "*it's a bit early in the day. demand is not that easily destroyed. That's one. Are we seeing it at the moment? No, we're not seeing it. As a matter of fact, if you just look at the performance including in this year, we see a continued increase in product demand around the world. But we also see, by the way, is a continued decrease in investment in supply, hence the difficulties we are all experiencing pricewise. But we definitely do not see a reduction in demand*"

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

Dan's notes on Shell Q1 call

CFO read the released prepared remarks

709am. Bernstein. Natural gas, could you see an European corporate or govt sign a 15 to 20 year contract. Also on LNG options status.

Germany Rents Floating LNG Hubs to Cut Reliance on Russian Gas
2022-05-05 11:25:00.790 GMT

By Arne Delfs and Vanessa Dezem
(Bloomberg) -- Germany signed contracts to charter four floating terminals to import liquefied natural gas in partnership with utilities RWE AG and Uniper SE as it races to reduce its energy dependence on Russia.
Shipping companies Hoegh LNG and Dynagas will each provide two of the LNG terminals -- which together have the capacity to convert at least 20 billion cubic meters of the super-cooled gas per year, about a fifth of Germany's needs, the economy ministry said Thursday in an emailed statement. RWE and Uniper will operate them, it added.
"Today, more than ever, we have to base our energy supply on more robust pillars," Economy Minister Robert Habeck said in the statement. "Supply security can only be guaranteed in the long term if we think about this alongside the development of infrastructure for LNG." Some of the world's major LNG exporters include the U.S., Australia and Qatar.
Minister Olaf Lies
@OlafLies

Auf dem Weg aus der Abhängigkeit von russischem Gas übernimmt Niedersachsen Verantwortung. Parallel gehen wir große Schritte hin zu einer sauberen Energieversorgung. Gemeinsam mit dem Bund bauen wir #Wilhelmshaven & #Stade aus zu Drehscheiben für klimafreundliche Energie. #Habeck
Sent via Twitter for iPhone.
View original tweet.
European countries are seeking to rapidly diversify their energy supplies to punish Russia over its invasion of Ukraine. Moscow last month unexpectedly cut off gas shipments to Poland and Bulgaria due to a payments dispute, underscoring the urgency of the task of reducing dependence on Russian fossil fuels.
Germany has already cut the share of Russian gas in its imports to about 35% since the invasion of Ukraine, from around half, and is aiming to reduce it to 10% by the summer of 2024. It has also signed up to European Union embargos on Russian oil and coal that will take effect through the rest of this year.
How Europe Became So Dependent on Putin for Its Gas: QuickTake
The government has allocated 2.94 billion euros ($3.1 billion) to pay for the floating LNG terminals and for the necessary infrastructure to connect them to the network, the economy ministry confirmed.
The plan is for the first terminal to go online at Wilhelmshaven on Germany's northwest coast around the end of this year, with another up and running in nearby Brunsbuettel in early 2023. Locations under consideration for the other two terminals include Stade, Rostock, Hamburg and Eemshaven in the

Netherlands.
Germany, which needs about 95 billion cubic meters of gas
per year, currently has no LNG terminals of its own, and those
in neighboring countries like the Netherlands, France, Belgium
and Poland don't have enough capacity to supply all of Europe.
*T
Russian Replacement PlanGermany imported 46 billion cubic meters
of Russian gas in 2021. Here's how Berlin plans to offset those
---------------------------volumes:---------------------------
• LNG deliveries via the Netherlands in 2022 |1 bcm
• Floating LNG import facilities to be phased in |
starting in late 2022 |33 bcm
• Additional LNG supplies starting this winter |7.5 bcm
• LNG terminals targeted for 2026 |8 bcm
----------------Source: German Economy Ministry-----------------
*T
Over the longer term, Germany is also planning to build
several fixed LNG terminals that are expected to come online by
2026. Uniper said Thursday it's investing around 65 million
euros in a terminal in Wilhelmshaven, construction of which is
already underway.
"Russia's war against Ukraine has turned the world we live
in upside down," Chief Executive Officer Klaus-Dieter Maubach
said in a statement. "This is especially true for the energy
industry."
Habeck is also due on Monday to present legislation
designed to speed up the approval process for LNG projects --
and make it harder for environmental groups to challenge them.
Speaking to reporters in Wilhelmshaven on Thursday, he said
current bureaucratic hurdles mean it would take about five years
to build an LNG terminal.
"We have a good chance of doing what is actually impossible
in Germany: building an LNG terminal within about ten months and
connecting it to the German gas supply," Habeck said.
*T
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Read more:
===
Germany, Netherlands Push North Sea Drilling to Shun
RussiaScholz Says Germany Is Preparing in Case Russia Halts Gas
SupplyGermany Vows to Continue Euro Gas Payments After Allies
Cut Off
*T

--With assistance from Anna Shiryaevskaya, Boris Groendahl and
Isis Almeida.

To contact the reporters on this story:
Arne Delfs in Berlin at adelfs@bloomberg.net;
Vanessa Dezem in Frankfurt at vdezem@bloomberg.net

https://www.energy.gov/articles/doe-announces-long-term-buyback-plan-ensuring-continued-availability-strategic-petroleum

DOE Announces Long-Term Buyback Plan Ensuring Continued Availability of Strategic Petroleum Reserve

MAY 5, 2022

DOE to Initiate Transparent, Competitive Process to Replenish U.S. Emergency Crude Oil Distributed to Alleviate Global Supply Disruptions Caused by Putin's War

WASHINGTON, D.C. — The U.S. Department of Energy (DOE) today announced it is initiating a long-term replenishment plan for America's Strategic Petroleum Reserve (SPR) to ensure that it will continue to deliver on its mission as an available resource to alleviate domestic and global crude oil supply disruptions. The buyback process will begin with a call for bids to repurchase a third of the 180 million emergency barrels released as part of a coordinated action with our international partners to provide a wartime bridge supporting American consumers and the global economy in response to Vladimir Putin's war of choice against Ukraine. The call for bids will take place in the fall of 2022 to secure delivery in future years when prices are anticipated to be significantly lower than they are today, and will represent a first tranche of purchases to replenish the SPR and with more planned after these purchases are executed.

"The U.S. Strategic Petroleum Reserve, the largest emergency supply in the world, is a valuable tool to protect the American economy and consumers from supply disruptions — whether caused by emergencies at home or petrol-dictators weaponizing access to energy resources," said **U.S. Secretary of Energy Jennifer M. Granholm**. "As we are thoughtful and methodical in the decision to drawdown from our emergency reserve, we must be similarly strategic in replenishing the supply so that it stands ready to deliver on its mission to provide relief when needed most."

The Fall 2022 call for bids to purchase 60 million barrels will specify the volume and type of crude oil that SPR will purchase. The future delivery window will be based on anticipated market conditions factoring in when future oil prices and demand are expected to be significantly lower, likely after FY 2023. In addition to securing contracts for future delivery to refill the SPR, this replenishment structure also will help encourage the production we need now to lower prices this year by guaranteeing this demand in the future at a time when market participants anticipate crude oil prices to be significantly lower than they are today.

As part of this buyback plan, DOE intends to begin a rule-making proceeding to consider broadening DOE's buyback regulations to allow for a competitive, fixed-price bid process as an alternative to the index-pricing that is traditionally used.

With the steps announced today, the Biden-Harris Administration is taking an important step to be sure that the SPR can be maintained at levels that allow it to accomplish its mission and remain the world's largest supply of emergency crude oil. DOE will continue to work with Congress to maintain operational integrity and sufficient volume to accomplish the SPR's mission. This includes responding to significant supply disruptions while also complying with congressionally mandated sales of as much as 265 million barrels between FY23 and FY31.

This the latest in a range of measures that the Biden Administration has taken to address Putin's price hike and provide relief for Americans. Even before the historic authorization of 1 million barrels per day from the SPR, the President secured global cooperation on a collective release at the

beginning of March right after Putin launched his further invasion of Ukraine. The Environmental Protection Agency recently announced that it is issuing an emergency fuel waiver that will allow the sale of E15 gasoline across the country this summer, in order to provide more flexibility for families to save money at the pump and build real U.S. energy independence. The President has also called on Congress to enact use-it-or-lose-it policies that would make companies pay fees on their federal leases that are non-producing as well as their idled wells on federal lands, in order to encourage more domestic production. Finally, the Administration has strengthened fuel economy standards that will make vehicles go farther on every gallon.

For more information on the SPR please visit **Infographic: Strategic Petroleum Reserve** and **Fact Sheet: Strategic Petroleum Reserve**. Sign up to receive future FECM news alerts **here**.

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https://www.transmountain.com/news/2022/update-may-2022-capacity-announcement-for-the-trans-mountain-pipeline-system?utm_source=Trans+Mountain+Updates&utm_campaign=e74b1932c8-EMAIL_CAMPAIGN_12_2_2021_15_6_COPY_01&utm_medium=email&utm_term=0_f287e4f791-e74b1932c8-30713878

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

Tags Operations

May 3, 2022

Total system nominations for the Trans Mountain Pipeline system are apportioned by 13 per cent for May 2022.

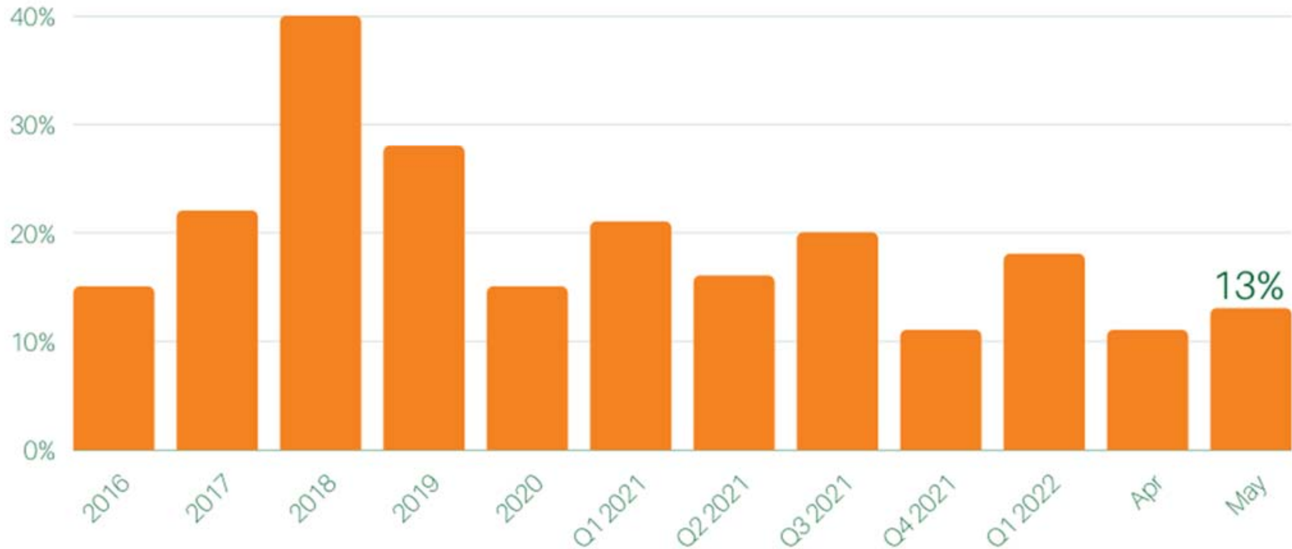
What is pipeline ‘apportionment’ and why is it important?

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

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

Trans Mountain Pipeline apportionment by the numbers

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



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

Business case for expansion is strong

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

Colombian oil production in March reached the highest levels since December 2020

• The controlled production of oil during the third month of the year was 751,407 barrels per day.
• The increase in production is explained by the reestablishment of operations in the Yarigui-Cantagallo, Rubiales, Quifa, Indico and Chichimene SW fields.
• For its part, the production of commercialized gas was 1,078.31 million cubic feet per day (mcfd) during March this year.

MinEnergy. Bogota. April 29, 2022. – The hydrocarbon sector continues to consolidate its recovery, since in March 2022 oil production was 751,407 barrels per day on average (BOPD), which represented an increase of 0.16% compared to 739,542 daily barrels of production reported in February of the same year.

This increase was motivated by the reestablishment of production in the fields Yarigui-Cantagallo (Cantagallo-Bolívar), Rubiales (Puerto Gaitán-Meta), Quifa (Puerto Gaitán-Meta), Indico (Cabuyaro-Meta), Chichime SW (Acacias/ Guamal-Meta), due to the reestablishment of production after affecting deferred, the reactivation and entry of new wells.

Oil production in Colombia has not reached such high values since December 2020 when it stood at 759,394 bopd.

However, compared to the same month of 2021, there was an increase in daily oil production of 0.8%, going from 745,427 BOPD to 751,407 BOPD in the third month of 2022.

On the other hand, the production of commercialized gas registered a decrease of 0.04% compared to the previous month, going from 1,078.81 mcfd in February 2022 to 1,078.31 mcfd in March of the same year.

According to the information provided by the ANH, this decrease occurred due to the taking of electrical records and the decrease in potential in the Pandereta, Floreña Mirador, Pauto Sur, and Cupiagua Liria fields.

Compared to March 2021, there was a 5.02% decrease in the production of gas sold (1,078.31 vs. 1,091.70 mcfd).

Organization of the Petroleum Exporting Countries

https://www.opec.org/opec_web/en/press_room/6858.htm

28th OPEC and non-OPEC Ministerial Meeting

No 10/2022
Vienna, Austria
05 May 2022

Following the conclusion of the 28th OPEC and non-OPEC Ministerial Meeting, held via videoconference on 5th May, it was noted that continuing oil market fundamentals and the consensus on the outlook pointed to a balanced market. It further noted the continuing effects of geopolitical factors and issues related to the ongoing pandemic.

The OPEC and participating non-OPEC oil producing countries therefore decided to:

1. Reaffirm the decision of the 10th OPEC and non-OPEC Ministerial Meeting on 12th April 2020 and further endorsed in subsequent meetings, including the 19th OPEC and non-OPEC Ministerial Meeting on the 18th July 2021.

2. Reconfirm the production adjustment plan and the monthly production adjustment mechanism approved at the 19th OPEC and non-OPEC Ministerial Meeting and the decision to adjust upward the monthly overall production by 0.432 mb/d for the month of June 2022, as per the attached schedule.

3. Reiterate the critical importance of adhering to full conformity and to the compensation mechanism, taking advantage of the extension of the compensation period until the end of June 2022. Compensation plans should be submitted in accordance with the statement of the 15th OPEC and non-OPEC Ministerial Meeting.

4. Hold the 29th OPEC and non-OPEC Ministerial Meeting on 2 June 2022.

	June 2022 Required Production
Algeria	1023
Angola	1480
Congo	315
Eq.Guinea	123
Gabon	181
Iraq	4509
Kuwait	2724
Nigeria	1772
Saudi Arabia	10663
UAE	3075
Azerbaijan	696
Bahrain	199
Brunei	99
Kazakhstan	1655
Malaysia	577
Mexico	1753
Oman	855
Russia	10663
Sudan	73
South Sudan	126
OPEC 10	25864
Non-OPEC	16694
OPEC+	42558

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https://www.arabnews.com/node/2074216/saudi-arabia

Frankly Speaking: Saudis feel let down by America, says Prince Turki Al-Faisal

Updated 13 sec ago ARAB NEWS May 01, 202223:35

- Former Saudi intelligence chief and ambassador blames President Biden's policies for US energy shortage, says Saudis want only mediator role in Russia-Ukraine conflict
- He says Saudi-Turkish relationship "should be one of the best in terms of benefit for both countries," be it in trade or cross-border investments
- He says sanctions should be levied on Israel because of its record of invasions of Arab countries as "aggression is aggression"

JEDDAH: Saudis feel let down at a time when they believe the US and Saudi Arabia should be together facing threats to the stability and security of the Gulf region, Prince Turki Al-Faisal, Saudi Arabia's former intelligence chief and former ambassador to both London and Washington D.C., told Arab News.

He identified the threats specifically as Iran's influence in Yemen and its use of the Houthis as a tool "not only to destabilize Saudi Arabia, but also affect the security and stability of the international sea lanes" along the Red Sea, the Gulf and the Arabian Sea.

"The fact that President Biden delisted the Houthis from the terrorist list has emboldened them and made them even more aggressive in their attacks on Saudi Arabia, as well as on the UAE," Prince Turki told Katie Jensen, the new host of Arab News' "Frankly Speaking." He was alluding to the Feb. 12, 2021, revocation by the new Democratic administration of the Iran-aligned militia's designation as a Foreign Terrorist Organization.

"Frankly Speaking" features interviews with leading policymakers and business leaders, diving deep into the biggest news-making headlines across the Middle East and around the world. During his appearance on the video show, Prince Turki offered his views on US-Saudi relations, the war between Russia and Ukraine, and the ever-shifting dynamics of Middle Eastern geopolitics at a time of rising oil prices and diplomatic tensions.

"We have always considered our relationship with the US as being strategic," he said on the question of whether many Saudis feel they have been betrayed by one of their closest allies.

"We've had our ups and downs over the years and perhaps, at this time, it's one of the downs, particularly since the president of the US, in his election campaign, said that he will make Saudi Arabia a pariah. And, of course, he went on to practice what he preached: First of all, by stopping the joint operations that America had with the Kingdom in meeting the challenge of the Houthi-led rebellion in Yemen against the Yemeni people. And, second, among other similar actions, by not meeting with (Saudi Arabia's crown prince) and publicly declaring that he would not meet with the crown prince, and, at one stage, withdrawing anti-aircraft missile batteries from the Kingdom when we were facing an increase in attacks by the Houthis using Iranian equipment like missiles and drones."

Pointing out that Saudi Arabia "all the time … has been calling for a peaceful solution to the Yemen conflict," Prince Turki said: "Unfortunately the Houthis have always either not responded to that call or simply ignored it or opposed it. And, as we see now, there is a supposed ceasefire established by the UN, but the Houthis continue to infringe on that ceasefire and to take advantage of the ceasefire to reposition their forces and replenish them."

"So, basically this is how the situation has come to this stage," he said, referring to the current state of US-Saudi relations. "I hope that we'll get over it like we got over so many previous downturns in the relationship."

On the face of it, Washington seems to be quite eager to keep its communication channels with Riyadh open with phone calls and visits by officials but, according to Prince Turki, "it's not just one thing."

He said: “It’s the general tone of the atmosphere and America, for example, has been declaring, or American officials have been declaring, that they are in support of Saudi Arabia and will help Saudi Arabia defend itself against outside aggression and so on. We are grateful for those statements, but we need to see more in terms of the relationship between the two leaderships.”

He shrugged off the claim that Saudi Arabia has not budged on the issue of the oil problems that the US is facing, countering it with the argument that Washington itself “is the reason for the state that it is in because of its energy policy.”

“President Biden made it a policy of the US government to cut all links to what is called the oil and gas industry. He curtailed oil production and gas production in the US (when) it had been, in the last few years, the biggest producer of these two energy sources,” Prince Turki said.

This curtailment of US energy production, he says, helped lift the price of oil, together with the OPEC+ agreement established after the COVID-19 difficulty, which “was an agreement to bring down production in order to stabilize the prices, for the benefit of everybody and stability of oil prices.”

Prince Turki was emphatic that Saudi Arabia does not want to be “an instrument or a reason for instability in oil prices,” indicating that actions such as the embargo of 1973 were a thing of the past.

“That is why the Kingdom and the other OPEC members and the OPEC+ members are sticking to the production quotas that they have assigned themselves. I have read that the recent decision by OPEC+ to incrementally increase oil production while the agreement is effective, is in response to the difficulties that people have in the energy sector. Another factor that adds to all this is the security issue, the high rates of insurance that have come about as a result of the war in Ukraine, plus the European and US curtailment of, and sanctions on, the Russian oil industry. All of these things have added to the increase in oil prices.”

In this connection, Prince Turki expressed strong displeasure with comments made by Hillary Clinton, the former US secretary of state, on NBC’s “Meet the Press” program in support of a “carrot-and-stick” approach to force Saudi Arabia to increase its share of oil production in order to reduce prices during what she called an “existential crisis.”

Reiterating that he could not speak for all Saudis, Prince Turki said: “We are not schoolchildren to be treated with a carrot and stick. We are a sovereign country, and when we are dealt with fairly and squarely, we respond likewise. It is unfortunate that such statements are made by politicians wherever they may be. I hope that the relationship of the Kingdom and the US will not hinge around or be built upon that principle.”

Likewise, Prince Turki brushed away the charge that Riyadh has chosen to side with Moscow in the Ukraine conflict, noting that “the Kingdom has publicly declared and voted to condemn the aggression against Ukraine that was passed by the UN General Assembly.”

Pointing out that Saudi Arabia offered to mediate between Russia and Ukraine, he said: “As a mediator, it will have to maintain a link and the ability to talk to both sides. We’ve had good relations with both countries over the years. In general, as I mentioned, the Kingdom is against the aggression in Ukraine. But also, most recently, the Kingdom has contributed to the fund that was established by the UN to provide support for the Ukrainian refugees in Europe. So that is where the Kingdom stands.”

He described the Saudi mediation bid as “an offer of a friend to friends — both Ukraine and Russia — (with) whom we have had excellent relations in the recent past.”

Moving on to what he perceives as international hypocrisy exposed by the Russia-Ukraine conflict, Prince Turki said this has been proven “by the way refugees from Ukraine have been described in civilizational terms as being one with the West and one with Europe and so on, as if other refugees from the Middle East or from other parts of the world are not equally human as Ukrainians. That’s one discrepancy in the way that Western media particularly has depicted the issue of the refugees.

"Another one of course — part of the hypocrisy — is the UN and the way that sanctions have been placed on Russia for invading Ukraine but no sanctions for example had been placed on Israel when it invaded Arab countries a few years back. Those are the double standards and the injustices that I think have been taking place over the years."

On the question of whether Israel should therefore be treated at par with Russia when it comes to sanctions, Prince Turki did not pull punches. "Absolutely. I don't see what the difference is there between the two," he told "Frankly Speaking."

He added: "Aggression is aggression, whether it is committed by Russia or by Israel."

Furthermore, Prince Turki cast doubt on the theory that normalizing relations with Israel — the route taken by a number of Arab countries, including Egypt, Jordan, the UAE and Bahrain — could be a more productive policy. "I have seen no evidence of that," he said. "The Palestinian people are still occupied, they are still being imprisoned by the Israeli government. Attacks and assassinations of Palestinian individuals take place almost on a daily basis. The stealing of Palestinian land by Israel continues despite the assurances that Israel gave to the signatories of the peace (accord) between the UAE and Israel. So, there is no sign whatsoever that appeasing Israel is going to change their attitude."

On issues closer to home, Prince Turki views the recent visit of Turkish President Recep Tayyip Erdogan, for one, as a positive development. "I think the leadership in Turkey has come to realize that their previous animus toward the Kingdom was not serving anybody's well-being and purpose, especially the Turkish people," he said, referring to the disputes and disagreements of recent years.

"Historic links bring us together with Turkey not just in terms of geography, but also in terms of human relations and family ties between the two countries. My own grandmother was of Turkish extraction, Circassian."

Moving forward, the relationship "should be one of the best in terms of benefit for both countries," Prince Turki said, citing such areas as trade, construction, development projects, and investments by Saudi Arabia and Turkey.

"All of those, I hope, will be restored now that the relationship is hopefully back to normal," he added.

He expressed similarly cautious optimism about the likelihood of a lasting peace deal in Yemen on the basis of the recently concluded Riyadh agreement and the Ramadan ceasefire.

"I've always maintained that ceasefire agreements, as attempted by the UN, particularly concerning Yemen, have lacked one crucial aspect which has not led to their success, and that is a mechanism to enforce the ceasefires," Prince Turki said.

"We saw, after the Kuwait meeting back in 2016, there was a ceasefire, but it led nowhere. And then there was the Swedish-sponsored ceasefire attempt back in 2018, equally without much success. Saudi Arabia's own efforts at unilateral ceasefires of recent years have led nowhere because there was no mechanism to implement the ceasefire."

Nevertheless, Prince Turki expressed hope that with the renewed international impetus to bring the fighting in Yemen to an end, some sort of instrument can be implemented so that any party that does not abide by the ceasefire terms is publicly shamed by the international community.

"That has not happened yet. I have not yet seen the UN saying that the Houthis are not abiding by the ceasefire," he said, adding: "But I hope that they will have the courage and the moral courage to stand up and say who is at fault here."

SAF Group created transcript of excerpts from comments by Sean Evers (Managing Partner, Gulf Intelligence) and Mike Muller (Head, Vitol Asia) on Gulf Intelligence Podcast: Daily Energy Markets – May 8th https://soundcloud.com/user-846530307/podcast-daily-energy-markets-may-8th

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

Evers. "*.. your outlook for OPEC+ at this point, what is their role in the market right now. they had a meeting last week. It seemed to be relatively irrelevant. Their current agreement expires in September, which is of course, just around the corner. How do you look to OPEC+ now and over the coming months of this year, and its relevance to the market?"*

Muller. "*Most of OPEC+ is maxed out. And one of the articles in your digest tied it up quite nicely. Nigeria has a quota of 1.7 something and is only producing about 1.4. Angola has a quota of 1.4 and their output is running at 1.1 or thereabouts. And these are largely assets that are operated by foreign companies in country. And these foreign companies of course, the supermajors, have been deploying their very very depleted capital over the past two years on other things. so this is the issue. one of [???] putting up the corporate results, Shell for example. It has been reporting season. I think it's grossly unfair for the market to be critical of these results. They are a consequence of price, both [??] pricing in the upstream, but more importantly, in terms of the margins available in the products sphere and very, very nice refining margins. And the oil majors or energy giants, shall we call them that, are fulfilling their promises to return money to shareholders by engaging in share buybacks. But those can now accelerate. And they're going to face the choice of deploying some of that P&L into resuming the spend, which has been woefully lacking in upstream production, or accelerating the turn away from fossil fuels into renewable, greenhouse gas addressing issues, energy transition. And my sense is a lot of the money is going to go into that direction to accelerate that deployment and therefore, leaves in the hands of others, namely national oil companies and private equity, the burden of restoring the investment not just in US shale but also some of the more challenging provinces. Because while some of those companies I mentioned find it unacceptable to say that peak oil is still ahead of us. I think the vast consensus amongst consultants, people that can afford to say so, is we are still seeing oil demand growth despite the high {???] in China. And there is a huge question mark on who is going to invest in the marginal oil field given the underlying decline is a pretty dramatic number if you don't invest in oilfields. And indeed the marginal refining capacity and look at what's [???} as well in order to satisfy peak demand, which in the opinion of those who can say so, is still ahead of us. So, a lot of concern there. In the eyes of OPEC, OPEC+, they will continue as set out, adding 400,000 or so barrels per day a month until the end of the agreement. But in reality, it's only those two or three countries that can still produce the extra – Saudi, the Emirates, and Kuwait. I guess. Iraq has its own challenges in terms of meeting their [???] production for technical reasons*."

Evers "… *look to OPEC+ to continue to find consensus beyond September, is it relevant is ultimately my question?"*

Muller "*Unless we see massive demand destruction from a recession. Sorry Christof, I will be quick. Or high prices destroying demand and [???] the purchasing power, the supply/demand, the supply cushion from OPEC will be at a point which is alarming. It goes hand and hand then with a lower amount of strategic petroleum reserve, the SPR in [???] countries. So naturally markets do what they do. they price in the fact that has to be replenished or there is the risk of an event as yet unforeseen causing major shortages or rationing."*

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

U.S. Oil Indicators Weekly

Takeaways: The volatility in West Texas Intermediate crude prices has simmered down since the start of the war, with the benchmark failing to break out of the $100-110 per barrel range over the past month. U.S. production held flat for a third straight week at a pandemic high of 11.9 million barrels according to this week's EIA report.

Gasoline demand continues to make up ground on the 5-year seasonal average as it attempts to overcome the initial demand shock from record pump prices going into the summer driving season. The four-week moving average of product supplied rose to 8.8 million barrels a day -- now just 460,000 barrels below the typical seasonal level. Meanwhile, jet fuel demand has been hovering around 95% of the seasonal average, matching the highest relative level since the pandemic crippled air travel in 2020.

	Frequency	Source	Snapshot: May 6, 2022
Overall market indicators:			
Mobility	Daily	Google mobility	Google mobility data rebounded sharply from an Easter lull; North American traffic data from TomTom has held fairly flat since March
Economic activity	Daily	New York MTA, Moovit, OpenTable, Prodco	NYC subway ridership has yet to hit 50% of pre-pandemic levels since briefly doing so in late 2021; U.S. restaurant activity remains in line with 2019 levels
Crude oil prices	Daily	Bloomberg	WTI prices have somewhat stabilized around the $105-110 per barrel range since mid-April, as China lockdown worries counteract the supply concerns
Oil demand:			
Road congestion & gasoline	Weekly, Hourly	U.S. EIA, TomTom	Fuel demand continues to shake off the initial shock from record pump prices, edging closer to the five-year seasonal average for a third straight week
Air travel & jet fuel	Daily	U.S. TSA, FlightStats	Jet fuel demand is hovering around 95% of the 2015-2019 seasonal average, matching the highest relative level since the pandemic crippled air travel in 2020
Refinery operations	Daily	U.S. EIA	Utilization rates unexpectedly fell to 88.4% with refiners dealing with a heavier-than-usual maintenance season, even as sky high crack spreads beg for more output
Crude/product inventories	Weekly	U.S. EIA	Commercial crude stocks increased by more than 1 million barrels, but were once again dwarfed by releases from the Strategic Petroleum Reserve
Oil production	Weekly	U.S. EIA	Production was unchanged, stuck at 11.9 million barrels a day for a third week, despite a continuing increase in the oil-focused rig count

Source: BloombergNEF. Note: Green signals an upturn from the disruption caused by Covid-19, red indicates downturn, orange indicates no/mixed change. In most cases, the colors are indicative of changes from the prior week.

Mobility

Note: Apple Mobility reports were discontinued on April 14, 2022. We will resume updating TomTom congestion data, which were previously updated to March 16.

Google mobility data rebounded sharply from an Easter lull; North American traffic data from TomTom has held fairly flat since March

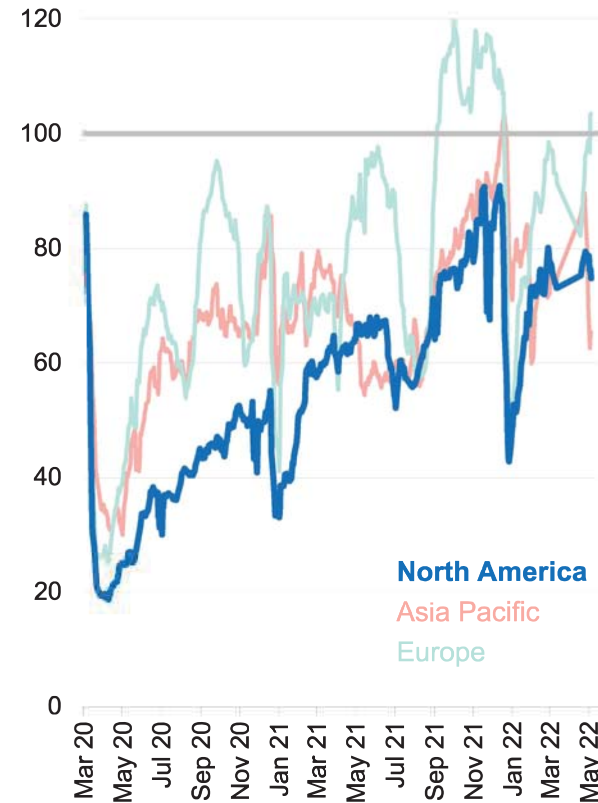
Google mobility index

Indexed to Jan - Feb 2020 (seven day MA)

Source: Google Community Mobility Report, BloombergNEF. Note: Data exclude China and Russia. Calculation includes retail & recreation, workplaces, transport hubs. The world/regional index is weighted by the 2019 road fuels demand of each country. ***Data updated to May 8.***

TomTom congestion index

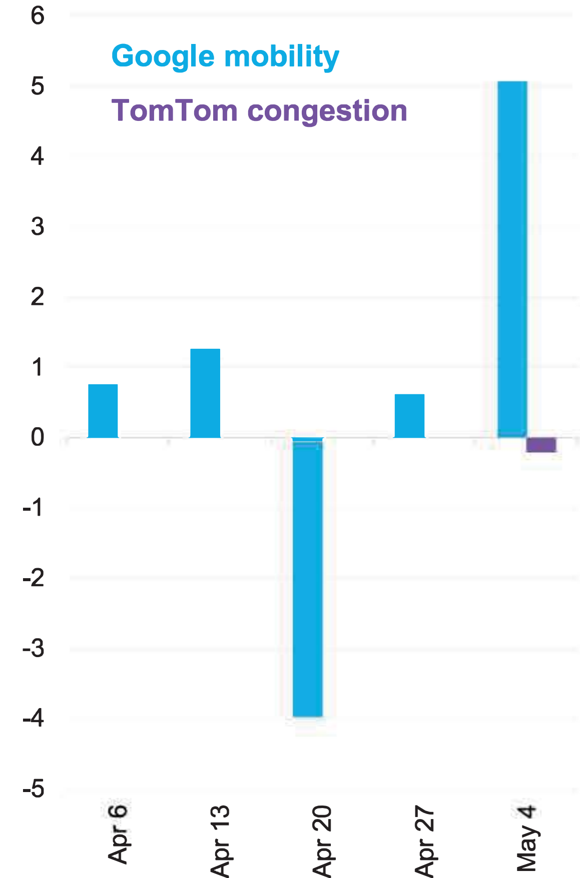
Indexed to Jan 13, 2020 (seven day MA)



Source: BloombergNEF, TomTom Traffic Index. Note: 'Peak congestion index' is calculated by BNEF. Index is the arithmetic daily average of the hourly weekday peak congestion data of various cities within the region, compared to the 2019 average values. ***Data updated to May 8.***

Americas week-on-week change

Weekly change in respective indexed value



Note: TomTom data not available for March 16 – April 22 as noted above.

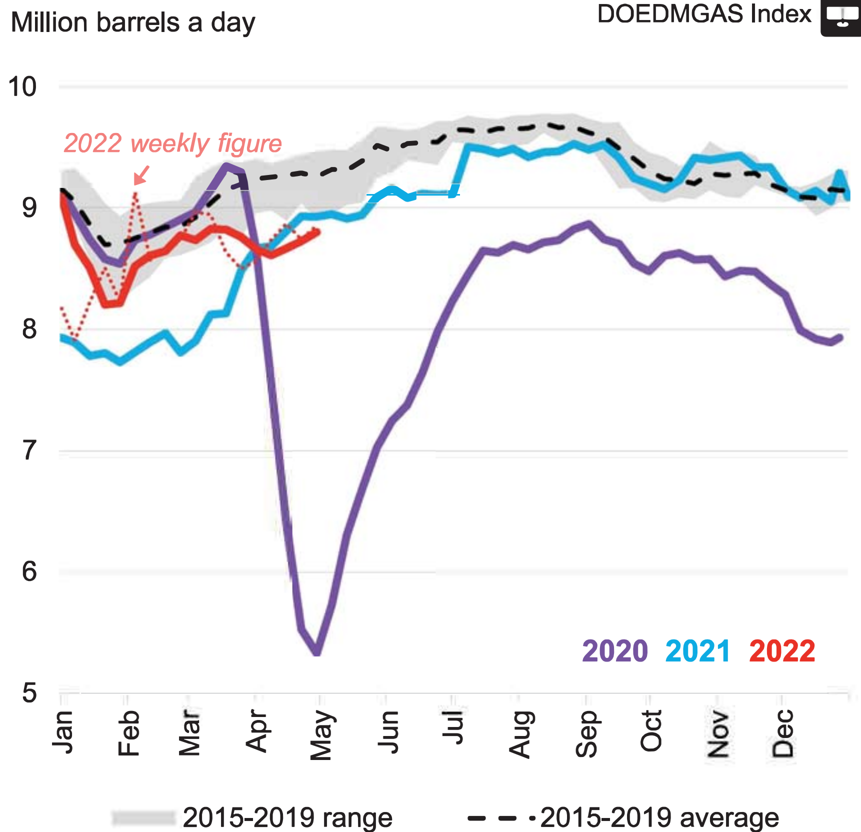
Oil markets

Gasoline demand

For more data on congestion around the world, see the BNEF Covid-19 Indicators: Road Traffic

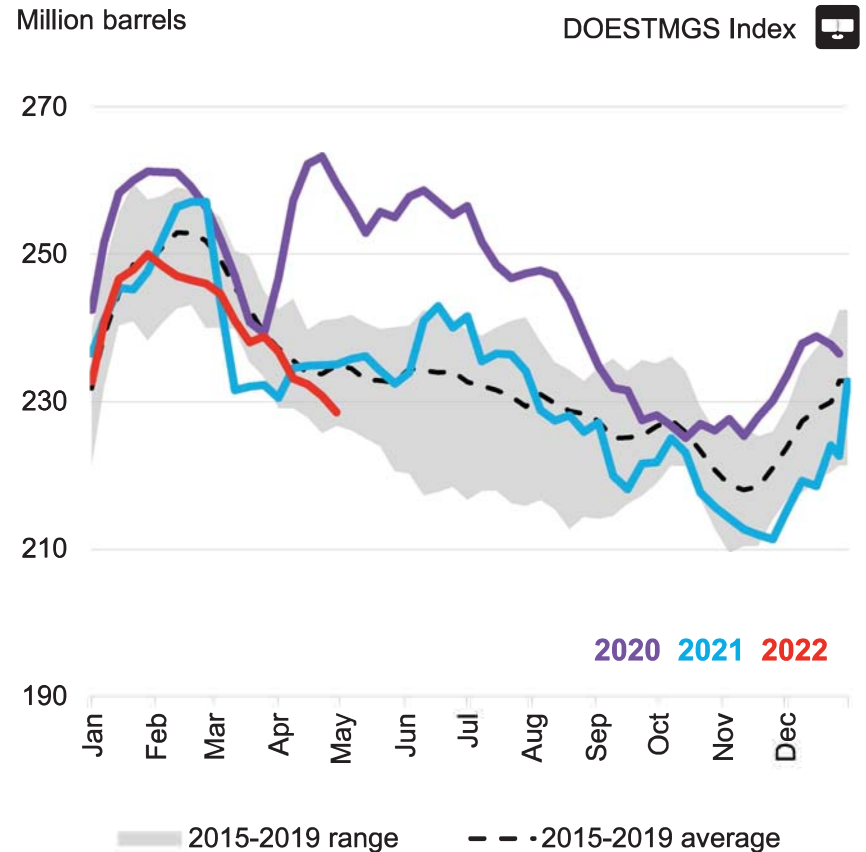
Fuel demand continues to shake off the initial shock from record pump prices, edging closer to the five-year seasonal average for a third straight week

Implied gasoline demand*



*Source: BloombergNEF, EIA; Note: *Based on the four-week moving average, except the 2022 weekly figure*

Gasoline inventory

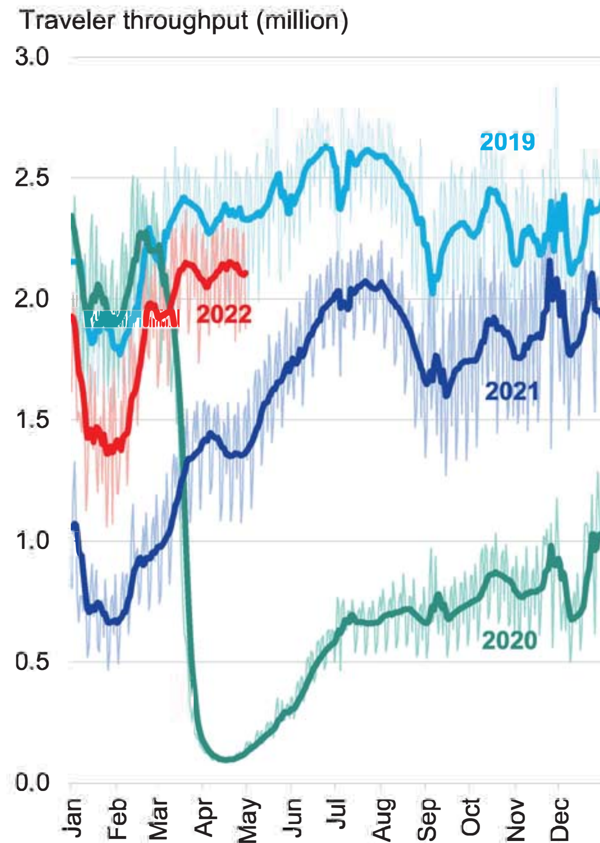


Source: BloombergNEF, EIA

Jet fuel demand

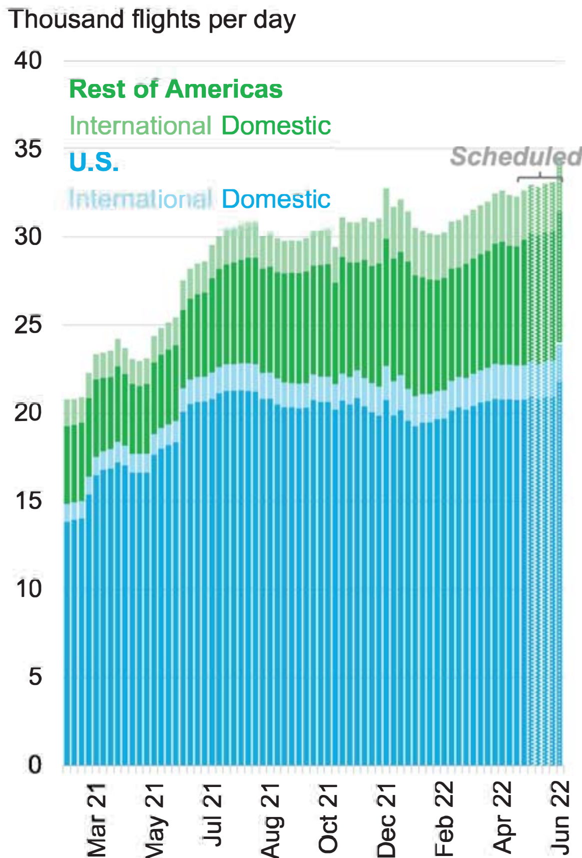
Jet fuel demand is hovering around 95% of the 2015-2019 seasonal average, matching the highest relative level since the pandemic crippled air travel in 2020

TSA checkpoint traffic



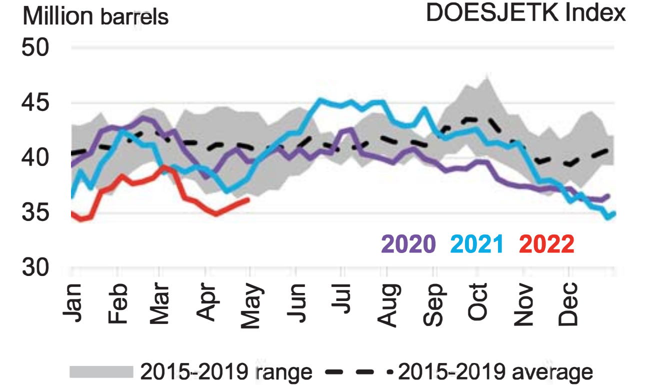
Source: BloombergNEF, TSA

Daily flight departures

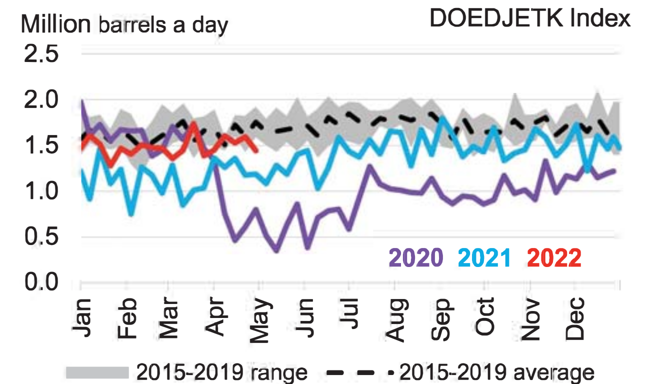


Source: BloombergNEF, FlightStats.

Jet kerosene storage



Jet kerosene implied demand



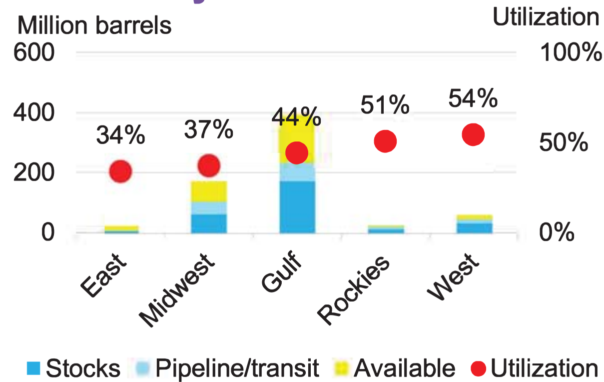
Source: BloombergNEF, EIA

For more data on congestion around the world, see the BNEF Covid-19 Indicators: Aviation

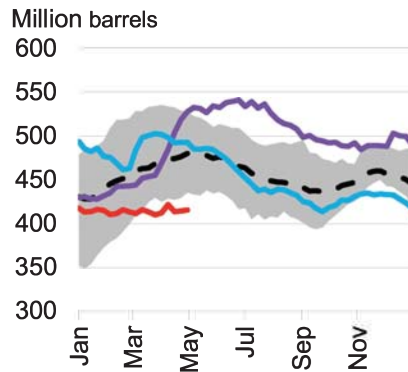
Crude and product inventories

Commercial crude stocks increased by more than 1 million barrels, but were once again dwarfed by releases from the Strategic Petroleum Reserve

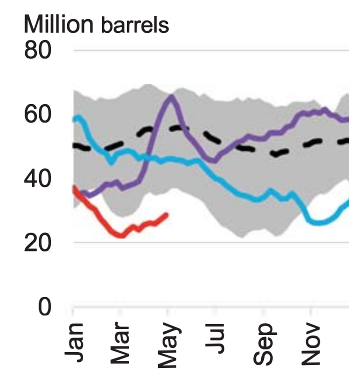
Commercial crude storage availability



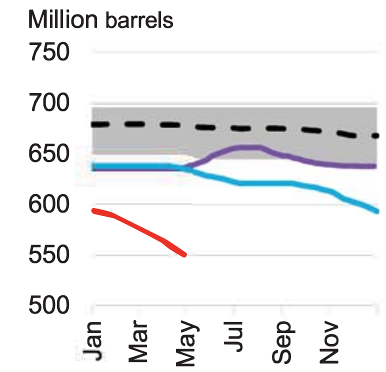
Commercial crude



Crude at Cushing

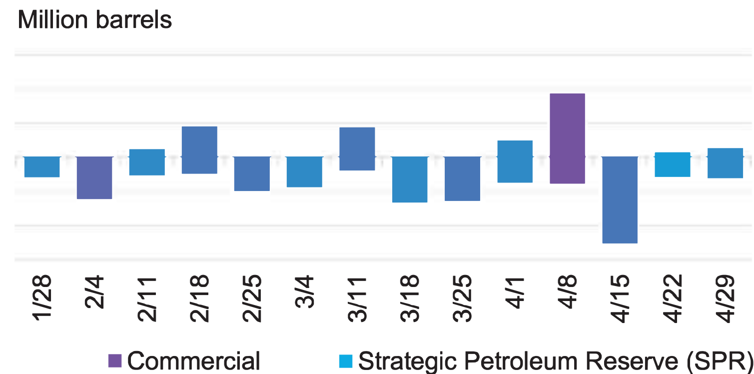


SPR



2015-2019 range   2015-2019 avg   2020   2021   2022

Commercial vs SPR weekly crude inventory change



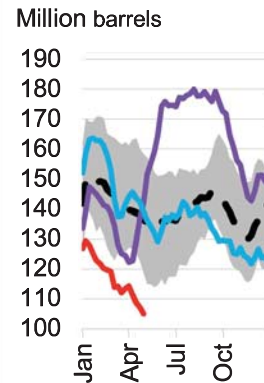
Source: BloombergNEF, U.S. Energy Information Administration

A note on crude storage

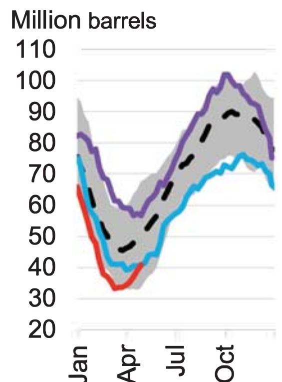
It is important to note how the EIA measures crude oil stocks. Typically, as shown in the graphs above, the EIA reports stocks held in above-ground tanks and underground storage, as well as crude in pipelines at refineries and tank farms plus stocks in transit by water and rail.

However, when considering how *full* storage is, volumes in pipeline and transit should be omitted. The graph above shows what portion of reported crude stocks is in the form of pipeline/transport, and the resulting storage utilization status excluding these volumes.

Distillate



Propane/ Propylene

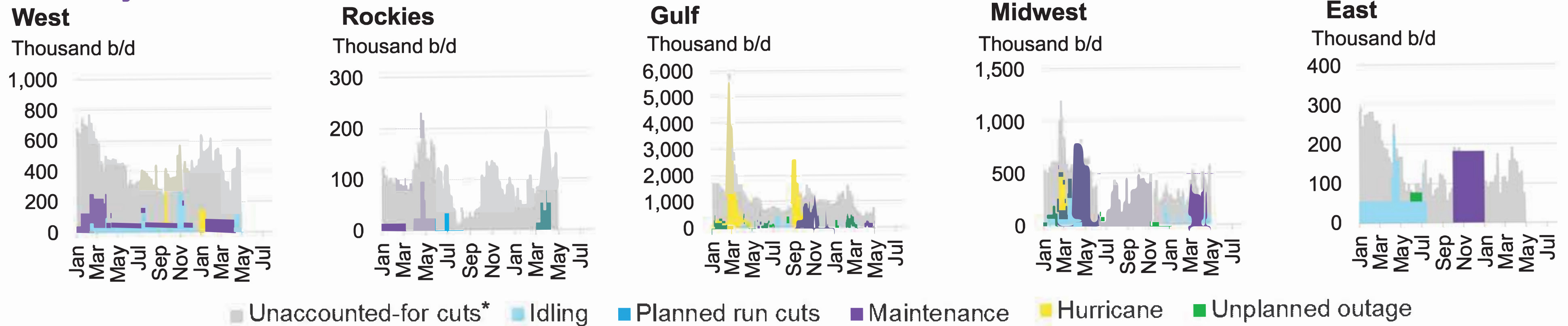


For more data on storage inventories, see NRGZ<GO> on the Bloomberg Terminal

Refinery operations

Utilization rates unexpectedly fell to 88.4% with refiners dealing with a heavier-than-usual maintenance season, even as sky high crack spreads beg for more output

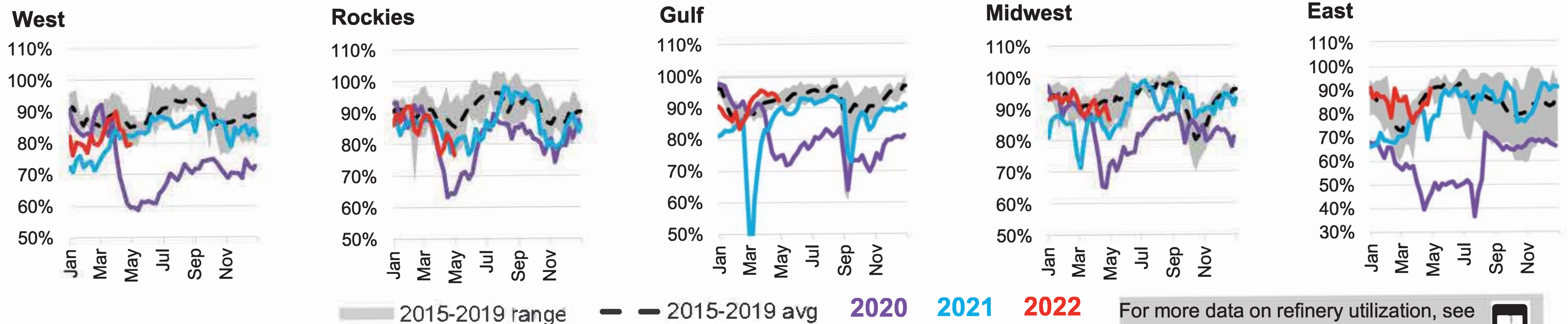
Refinery run cuts based on reason for outage



*Source: BloombergNEF, REFO<GO>, U.S. Energy Information Administration; Note: *Unaccounted-for cuts is calculated from EIA data on refinery utilization and inputs, less the accounted for outages from REFO<GO>.*

For details on refinery outages, see REFO<GO> on the Bloomberg Terminal

Refinery utilization



For more data on refinery utilization, see NRGZ<GO> on the Bloomberg Terminal

Source: U.S. Energy Information Administration

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Our comments also include non-GAAP measures. Reconciliations to the nearest corresponding measures are in our earnings release available on our website. On a US GAAP basis for the first quarter of 2022, NOV reported revenues of $1.55 billion and a net loss of $50 million. Our use of the term EBITDA throughout this morning's call corresponds with the term adjusted EBITDA as defined in our earnings release.

Later in the call we will host a question-and-answer session. Please limit yourself to one question and one follow-up to permit more participation. Now, let me turn the call over to Clay.

Clay C Williams {BIO 14004815 <GO>}

Thank you, Blake.

For the first quarter of 2022, NOV's revenue of $1,548 million grew 2% sequentially and EBITDA increase $34 million to $103 million or 6.7% of revenue. Year-over-year revenues were up 24% at 34% leverage reflecting positive impacts of aggressive cost reductions and some recent pricing recovery offset by continued inflation and supply chain disruptions. Helped by continued high demand high demand for offshore wind renewables along with rising oil and gas demand orders were strong across the board as we put up a consolidated book-to-bill of 115% in the first quarter, the organization's execution against shifting challenges and supply chain -- 48 and labor improved during the first quarter in part by broadening our base of suppliers as well as recovering escalating costs through higher pricing. Our costs for certain raw materials like residence appear to be easing, unfortunately a lot of components got worse during the quarter, steel forgings, polymers, fiberglass, electronics, stainless steel and switchgear most notably.

Great challenge is intensified in the eastern hemisphere owing to the conflict in Ukraine and continued COVID impacts in the quarter. Recent standard cost rules on many of our products moved up materially reflecting the higher costs we Face. Thus, considering all these extraordinary challenges we were pleased to see improved execution and better financial results for the quarter. Our results are still below acceptable levels, our outlook is constructive given the steady the steady tightening of oilfield services capacity that is driving accelerating demand for NOV's score oilfield products.

This uplift is giving us improved line of sight towards healthier returns for our shareholders. For reasons I'll go into in just a moment I believe this upcycled will last a while. First however, I'd like to take a minute and speak to some oilfield fundamentals. Constructing and oil or gas well takes much more than good reservoir rocks in a drilling rig.

Well and gas companies rely on highly specialized geotechnical talent to identify and delineate drilling location and on petroleum and processing engineers who design wells, production systems, and processing and transportation facilities. The business requires investments in expensive leaseholds wells and fabrication of platforms processing plants, Gathering systems in refineries that make oil and gas production one of the most capital-intensive industrial undertakings. The actual well construction is performed by oilfield

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service companies that in turn operate very expensive highly engineered fit for purpose equipment fleets, which probably make it the second most capital intensive industrial undertaking around. All this plant equipment and well, construction process, utilizes a lot of steel as well as exotic metallurgies polymers, resins, computer chips, electric motors and electronics.

The work is performed by Hardscrabble men and women from roughnecks to drillers to truck drivers working long hours in remote locations for usually above average pay in tandem with talented, geo scientists and engineers supporting these complex operations. One way to think about our industry is a finely tuned and optimized machine into which goes capital a lot of capital highly-skilled engineering talent. Hard work by experienced oilfield hands for -- identified by geo scientists that holds the promise of profitable production. And a lot of highly suspect pipe plastics engineer engines, resins, and computer chips out of this oil and gas machine, comes your high standard of living.

The high standard of living that your family and my family and millions of enjoy along with the hope of a better standard of living for literally billions of people in lesser developed economies around the world. Out of this machine comes to food that we eat and the fertilizer made from natural gas that the farmer uses to achieve amazing agricultural productivity from fields plowed and harvested using, diesel powered equipment. All air travel, most transportation on demand plus all ocean-going freight and rail that brings food and products into our lives. The plastics that doctors use to deliver our medical care and a thousand other things that make our lives better.

From construction to transportation, to petrochemicals, to pharmaceuticals to consumer goods, to you name it, the oil and gas industry connects with and supports 100 industries that form the foundation of our modern lives. This leads me to our current predicament, two years ago, remarkably oil prices, today the world is confronting triple-digit crude prices in all-time high global natural gas prices, while this rapid shift is jarring and damaging to global global economies frankly it should not have been entirely unexpected. For the past few years governments and capital allocators had been playing a dangerous game with respect to energy and the global economy, while transition to lower carbon renewable sources of energy for the world is required for the long-term good of the planet. It seems, we've gotten ahead of ourselves as we've attempted to pivot away from fossil fuels, which are inherently reliable and energy-dense sources of power to lower density forms of energy with intermittency issues, and inferior economic profiles, prior pivots to new energy sources, were accomplished over decades think about the shift from fire wood to call through the 18 and 19 centuries, the shift from coal to oil to the 20 century, the emerging shift to natural gas for the past 25 years.

These were driven by economics superior energy, density and value for lower cost to supply rising per capital energy demand. Unfortunately, the lower carbon energy transition today lacks a robust economic engine driving it forward, while -- have fallen for solar wind and other forms of of renewable energy. I believe LCOEs will continue to fall through technical advancements that energy and others are making, renewables are still expensive and suffer from intermittency challenges that require storage solutions that add to their all-in cost frequently not accounted for LCOE calculations. To accelerate this transition in the absence of a compelling economic driver, government's regulatory

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agencies and media decided it would be a good idea to demonize the oil and gas industry.

And let's be honest, you know what I'm talking about. I think the motive behind this are pretty evident to bring about the acceleration of a desired energy transition outcome namely a more rapid put it to renewables. Specifically, the oil and gas industry has been under attack by political bureaucratic and media leadership that have been very effective and choking off the inputs into the oil and gas machine I described earlier. Now, let's turn back to those starting with capital.

Unrealistic near-term peak oil demand narratives built on the promise of rapid substitution of renewable energy at significantly dampen equity investor interest oil and gas stocks both in public markets where energy energy waiting in the S&P 500 bottom recently at less than 2% compared to 14% in 2008 and more than 20% in the 1970s, and in private equity. With little or no terminal value expectation, due to a broadly accepted narrative that oil and gas goes away soon it's easy to understand why equity investors have been reticent to invest here and with the relentlessly negative -- PR the industry receives, we understand why it's been fashionable for college endowments and other institutions to trump their divestitures out of the space. Meanwhile, commercial banks are being pressured by both their shareholders and regulators to trim lending to the sector. In short, capital forms has become way more expensive to oil and gas next the industry needs engineering talent.

Again unrealistic peak demand scenarios and negative PR have frustrated efforts by the oil and gas industry to recruit young talented engineers who worry about investing their careers in a sunset industry. And this recruiting effort is becoming more urgent as the industry needs to replace its experience but aging baby boomer workforce soon referred to by industry insiders as the great crew change. Well, fieldwork has provided high wages and high standards of living in small towns in remote areas for generations of blue collar workers. But it's not for the faint of heart deep cyclicality requires painful significant cuts during oil field downturns, which can be brutal.

As the US rig count dropped to record low levels in the summer of 2020 following the global government decisions to shut down economies. The oil field did the difficult task that we are unfortunately called to do from time-to-time. We laid off a lot of good employees. This was very, very tough on many good people and families and they remember it.

When we fast forward to today, when the broader economy is growing unemployment is low, attractive job opportunities are available outside the oil patch and family balance sheets are in much better shape and we get the pandemic stimulus checks, as it is extremely difficult to attract direct labor back to the oil patch and frankly, requires much higher wages. Will fit service is also cut investments and it's hard assets. The downturn salt companies cannibalize underutilized oilfield equipment for spare parts, rather than spend precious cash needed to survive on properly maintaining fleets required for more normal levels of activity. As industry activity ramps oilfield service companies are swimming upstream against the congested supply chains as they scramble to put incremental equipment back in shape to work.

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The physical inputs required for these equipment overhauls, bearings and hoses, engines and transmissions, polymers and resins, chip and circuit boards are incredibly tight. While the US is back to growing production off the 2020 lows by drawing down duck inventories. We are the only such country that's growing. Global crude inventories are well below average and still trending the wrong direction because we are no longer the just-in-time industry we were in the prior decade.

The oil and gas machine needs promising acreage as well. Our EMP customers tell us that the current regulatory environment continues to get more expensive and challenging orchestrated in their view by agencies that are all trying to effect a more rapid energy transition while in other while in other developed countries, they faced outright bans on a little field activity. By the way, geoscientists, need years to find and delineate fertile acres through expiration. Unfortunately, global exploration was severely cut following the downturn of 2015.

Meaning the pipeline of prospects to develop is very limited after seven years of under exploring. To summarize, when we survey the inputs required, to construct, oil and gas, wells from capital to labor to workable regulations to prospect development pipelines to engineering talent to consumables and equipment all free significant hurdles put in place by politicians, regulators and media. My question is this, as it's been a good idea. Has been a good policy to demonize the industry that quite literally powers, all other industries, political leaders, across the globe have not been honest with voters and consumers about the cost feasibility, difficulty inconvenience and time required to fully pivot.

Two renewable sources of energy in my view. I'm not questioning the need to make the pivot to make the pivot but rather the plan to get there, the facto policy of choking off inputs of a critical industry not just years but decades before we have a good alternative is a very bad policy, many will suffer as a result. To make matters worse, the enormous economic stimulus that accompanied before shutdown of the global economy during the pandemic massively increased money supply across developed economies as government's printed money at a breathtaking rate, the US tend money supplies up over 40% for example. Historically inflation rose directly into commodity markets like well and gas this time, I believe it will be amplified by input constraints that I catalog earlier.

Add to this productivity gains from workforce demographics and globalization and offset money supply growth and power generation that today are going the other direction and it's no surprise that dollar inflation is at 40 year highs and rising. In summary, I could not have scripted a more compelling set up for an energy crisis. All this points to rising demand for equipment and services in OB -- breach, the oil patch over the coming quarters and years, it also points to pre dark dark view of economic challenges we face as we undo the mess created. The world now finds itself in critical need of an industry that it had written off as a sunset industry.

And reconstructing this industry will not be easy. Seven years of EMP under investment of oilfield services effectively dismantling much of its capacity and drastically shrinking its workforce in order to survive. Together with the additional hurdles created by the vilification of oil and gas make what is required of us a very heavy lift. According to a

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recent research report the industry habits resource life since 2014 and fewer FIDs in recent years will potentially lead to approximately 10 million barrels of loss production by 2024.

The prospect pipeline continues to shrink, while ESG she measures drive operating in financing costs higher, skilled labor markets are tightening and inflation and supply chain disruptions are pushing large project cost curve significantly above the levels seen in the prior decade. And accelerating growth global decline rates adds further risk of global production shortfalls. In order for the world to avoid an to avoid an energy crisis, the likes of which we haven't seen since the 1970s. We need a synchronized global oil and gas super cycle of some duration and we need it to start yesterday.

We need and thankfully, we are starting to see, both short cycle shale oil and longer cycle offshore development of petroleum resources. The low rates charged by oilfield service participants over the past several years, did not reflect the physical consumption of capital equipment used in operations, much less earn a decent return for oilfield service shareholders. However, that overhang is diminishing rapidly and has been replaced with tightening schedules and lean, If not bare shale's. Pricing is beginning to move across the oilfield after, years of services industry, subsidizing its customers by cannibalizing its own capital base.

While the moves thus far have been small and mainly to keep pace with inflation, our oil field service customers report net pricing momentum is beginning to grow. Nevertheless, while all the foregoing is worrisome for the global economy. I am confident our company, our industry and the producers we serve are up to the extraordinary task of growing production to provide energy security and better standards of living for humanity. Just as we have done for 163 years.

The oil field is nothing. If not resourceful and resilient. Since 2014, our organization has shrunk dramatically to make it to the other side of the seven-year down cycle, but we never took our eye off the ball and technology development initiatives in NOV continues to invest in and lead in both oil and gas technologies along with the emerging renewable technologies that we've spoken of through the downturn. Well, an energy transition to a lower carbon future is required.

The world is finally waking up to the fact that oil and gas is still absolutely essential to our modern way of life, and the oil and gas industry, is quickly becoming aware that it can't continue to meet the world's demand for its products without significant further investment in NOV is the enabler of what still is the most important industry in the world, and we stand ready to meet the challenges of the coming up cycle. to the employees of NOV, who are listening today, thank you for all that you've accomplished through this tough historic down turn. Your hard work and perseverance got us here, we have a lot more hard work ahead and now it's showtime, the world will be counting on us. With that, I'll turn it over to Jose.

Jose A Bayardo {BIO 2137131 <GO>}

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As logistics is a core capability for us, we are, of course, using that capability to provide large scale assistance across the region to support the secure and stable flow of aid and relief supplies.

We providing warehousing solutions in several countries bordering Ukraine, Poland, Moldova, Romania, for receiving aid and relief cargos donated by governments NGOs and even some of our own customers. And we provide this will multimodal transport solutions from the warehouses into Ukraine rail and trucking, all the way to the east of the country.

While we're disengaging from all Russian activities, it's also our responsibility to our Russian colleagues to ensure that this is done in a plant and responsible manner, limiting uncertainty and providing appropriate severance payments.

We do not hold our Russian colleagues responsible for the actions of their President. The disengagement from Russia means that we have written off our Russian assets in this quarter impacting our Q1 result negatively by $718 million. The main impact of that is the write-down in terminals due to the stake in global reports.

Now turning to Slide 8, the question highest on the minds of those involved in global logistics is, of course, when we will see a normalization of the extraordinary market situation, we have experienced since the beginning of COVID-19 pandemic.

Unfortunately, this quarter didn't bring us much closer to normalization in fact the spread of Omicron in Mainland China and the continuance of the zero-COVID tolerance policy in China, have added to the disruptions and the timing remains very difficult to predict.

Somewhere between 10% and 12% of global ocean shipping capacity is tied up in port congestion. We believe and that's actually an increase on the situation earlier this year. What we have seen happen is that port congestion has spread from the U.S. west coast to the east coast. And now also two parts of China. We, of course, continue to work but do what we can to help our customers.

Now, turning to Slide 9, we continue to make steady concrete progress towards our goal of being the leader in decarbonizing logistics. Our ECO Delivery product is ramping very quickly. In this quarter, we tripled our volumes and see extremely strong demand for these premium priced products.

As you know, we have all the 12 ships which can run on green methanol, so our next step has been to secure an adequate fuel supply. The green e-methanols fuel supply chain is still in a start-up phase, but it is our intention to support it either through direct investments, partnerships are (inaudible) agreements.

And in the first quarter, we signed let us of intense for offtake agreements in partnerships with six leading companies. And we have also signed -- we have signed enough contracts now to fuel the first series of ships.

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$18 million brought profitability down. On an adjusted basis, profitability would have risen by 4% underlying the persistence stability and strength of this business.

Maersk supply services reported revenue growth of 54% as market conditions in the North Sea and Brazil improved. The contract win with the empire offshore wind project for our patented vertical installer was an important milestone this quarter. Demonstrating that Maersk supply services has the right technology to progressively evolve from servicing or offshore drilling to servicing offshore renewables.

Having completed our ran through the segments, I'd like to hand over to the operator for the Q&A session.

Questions And Answers

Operator

Question And Answer

Thank you. (Operator Instructions) Our first question comes from the line of Muneeba Kayani from Bank of America. Please go ahead.

Q - Muneeba Kayani {BIO 21068004 <GO>}

Thanks for the clarification on your guidance in terms of what you've assumed for the normalization. Can you talk about currently what you're seeing in China in terms of the trucking and getting exports out of China situation? And do you expect a surge in volumes when the lockdown eased? And that's my first question. And then, secondly, just a clarification on contracted increase [ph] of the 1,400 for this year. You said in the last call that you were expecting 800, and then last year you'd had a (Technical Difficulty) given the change in condition, so should we be thinking last year was an average of 3,000 and then we add (inaudible) on top of that. So if you can just clarify the moving parts there.

{C: Soren Skou: Chief Executive Officer: A.P. M?ller - Maersk AS:} Okay. Yeah. Let me start with the China question. It was a little bit hard to hear your questions. But I think we got it. On China, what we are seeing, of course, is that Shanghai has now entered its sixth week of lockdown. The port is open and operating. However, we're seeing quite some, if you will, disruption on the land side, lack of trucking capacity and also lack of warehouse workers, which is slowing things down somewhat.

And we are seeing an impact on our volumes out of China right now, but probably less than we could have expected. Clearly, there is a risk of further lockdowns in China due to the Chinese, what they called a dynamic COVID policy, and we will see how the year evolves. It's our understanding that the Chinese government is very focused on this policy and want to maintain it. So also despite, if you will, it will have impact on the economic growth. So that's our main scenario for China this year.

The purchase orders that our customers have given -- have issued in China, they don't disappear, just because we have a close down in one part of the other. So obviously, they will come later with some delay. But I guess, right now we don't see a huge build up of values because of the close down in Shanghai. And then Patrick maybe you will take the freight rate question.

{C: Patrick Jany: Executive Vice President and Chief Financial Officer: A.P. M?ller - Maersk AS:} Yeah, so to your second question, the answer is refer to the increase we see in the contracted rates, right? So indeed as you mentioned, last year we saw an increase in 2021 right of around USD1,000 of the contracted rates which is what we indicated in the call back in February, which led to an approximate let's say, USD3,000 per FFE on the contract rates.

Now, we are guiding for an increase of USD1,400 per FFE, so mathematically that gives you a 4,400 rate indeed. And the increase from our guidance back in February which was USD800 per FFE to the USD1,400 now is mainly due because we have more visibility on the contract season. We also have some first BAF adjustments coming through our increased bunker. So from that point of view, I think it gives us a good confidence, now that we have 80% of the contracts actually done, that we have a good visibility on the race, which will apply for the 70% of our long-term volumes -- long haul volumes this year.

Operator

And the next question comes from the line of Ulrik Bak from SEB. Please go ahead.

Q - Ulrik Bak {BIO 21317822 <GO>}

Yes. Hello Soren and Patrick, and thank you for taking my questions. Also to the questions about the contracted rates. They have now gone up to, yeah, an increase of 1,400. So now that we are almost halfway through 2022, is there further room for this average to be adjusted significantly up or down throughout the remainder of the year? And also to what extent will there be a spillover effect into '23, both in terms of the length of the contracted, but also the rate level that we're currently seeing?

And then my second question is, I think you mentioned Soren that, you expect the remaining 20% of your '22 volumes will be entered into similar levels in terms of rates, as the contracted rates. I just want to clarify, if that was the case and also if that was the case, how does that fit with your assumption about a normalization from the beginning of the second half? Thank you.

{C: Soren Skou: Chief Executive Officer: A.P. M?ller - Maersk AS:} Well, you're right, I said, we would entered them at the similar level. I guess, what I should have said, end of them at level, so that we will get an average for 1,400 mathematically. It actually means higher rates for the remaining 20%. Sorry for being not quite clear here.

We only have 20% of our volumes left to do in contracts. All of that is in negotiation by now. So we don't see much chance of the level of 1,400 changing dramatically one way at the other by now. We also disclosing today that, 22% of our contracts are multi year. So

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they will mean that, contracts that will apply next year as well and some of them further out.

The contracts have one of two rate structures. One is fixed rates. So we have a number of -- quite a number of contracts with fixed rates, where customers hand up for two or three years at a fixed rate level. So of course, that's then done. And then the other contract or the other mechanism is a backwards looking indexing so basically looking back at the rates in 2022 and using that as the guide for the rate in 2023. In both cases of course, this is something that puts a floor on our earnings in Ocean in 2023 and also in some cases into 2024.

Operator

And the next question comes from the line of the Alexia Dogani from Barclays. Please go ahead.

Q - Alexia Dogani {BIO 16686359 <GO>}

Good morning. Thank you for taking my questions. I had two as well. Just firstly, on your decarbonization pass out to 2040, do you have any indication of what this would mean in terms of OpEx and CapEx needs for the group to hit that target? And then secondly, in terms of M&A, can you remind us kind of the hurdle rate for these investments and how you expect to deliver value? I mean, I'm clearly thinking about it from sort of the transaction multiples we've seen relative to the valuation at the moment. Thank you.

{C: Soren Skou: Chief Executive Officer: A.P. M?ller - Maersk AS:} Yeah, I can hear. Let me start on the decarbonization. So the main impact is of course that for now the ships that can run that on green fuels, we are buying those ships with the dual fuel engine that adds around 10% to the cost of the ships on CapE. We expect that additional cost to go down over time as the engine manufacturers become, if you will, better and more experienced in building these types of engines.

On the OpEx, the main cost is the fuel. And here, the extra cost will very much depend on what happens with the oil price. We originally said when the oil price resulted in a fuel cost of between $400 and $500 per tonne of bunker oil that we expected green fuel to be 2 to 3 times as expensive. Of course, now, fossil fuel has doubled in price and is now somewhere between 800 and 900. And therefore, of course, the extra cost for green fuel is a lot more manageable.

In any event it's our assumption here that we will be able to pass on if you will the extra cost for fuel if there is an extra cost to our customers. As we highlighted in review before, our ECO delivery product which is based on biodiesel is a premium price for the product where the customers are paying today around $160 per tonne of CO_2 abated. And we see growth in that product, it's basically tripled since last year, and we expect to continue to have strong customer interest for carbon neutral logistics products, as our customers increasing, they're making their own commitments to be science-based targets. And let me then handle over to Patrick for the M&A's question.

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And the contracts that we have with freight forwarders, long term contract we have with freight forwarders, they are all what we call block space agreements. These are take or pay contracts, so we have -- yeah, we are very confident about our contract portfolio delivering what we have been guiding you around this year and for the multi-year contracts also in the multi years.

Now, in terms of uncertainty, I mean obviously there's a lot going on. There's a war in Europe. There is inflation. There's a COVID policy in China, just to mention a few things. Clearly, we are seeing the same numbers as you are in terms of a drop in consumer confidence in -- drop in business confidence around the world. And those are really the reason for why we think that this year will be in demand growth on the Ocean side will be -- it just around plus, minus 0. And -- but it is a relatively unique situation and quite low visibility that we have. We -- the consumer confidence both in Europe and the U.S. have come down in the last few months and while it hasn't really spilt over into the way people consume yet, it's probably a strong indicator that we will see less growth in the second half.

Operator

And the next question comes from the line of Carolina Dores from Morgan Stanley. Please go ahead.

Q - Carolina Dores {BIO 16138020 <GO>}

Hi. Good morning. Two questions for me. But first is on the logistics business, if I look at the conversion rate, you are at 24% which is well below peers. If you just look at peer freight forwarders, how do you think about this? Is the idea to operate at lower conversion rates? Because this business seizing devolution [ph] there's room for improvement or if this is just a different business, that will be my first question. And the second question is, if I look into your guidance and try to break down into Q2 and in second half, what are you expecting that Q2 in line with Q1 and there a decline or Q2 even better than Q1 and then even a sharper decline, just trying to understand the moving parts of the guidance? Thank you.

{C: Patrick Jany: Executive Vice President and Chief Financial Officer: A.P. M?ller - Maersk AS:} Yeah, thanks very much for your question. So when you look at our conversion rate, we didn't report this historically to show a little bit to the progress that we're making as a real logistic operator. The conversion rate is now 24%, 25%. But it includes actually the adjustment for the Russian operation, as we took a hit of 53 million in logistics and services for wind down of our Russian operation. So if you take that out actually it's 30%, right? So it's -- which is quite a decent one already.

And to your point it's probably not totally comparable over time, as we are not a freight forwarder. But indeed, we are much more expanding as you see from our revenue growth in the areas of fulfilled by Maersk and managed by Maersk. So in really lead logistics and contract logistics. So we are doing here a tremendous impact in taking over the supply chain, helping the supply chain of our customer. So that's a different segment and

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Good morning. I got two questions here. So firstly on the market share gains within your top 200 customers because that's one of the things that due flat during the CMD. So if you could share some color on percentage of your contract volumes that you find in 2022 within top 200 and how it was say in 2021? And also specifically, the long-term multi-year contracts, i.e., 22% of your volume, which is actually is now the top 200 customers.

And the second one is actually on the terminals. What are you focusing on the tariff increase across your terminals portfolios? Because some of the peers have come out and said an increase within 15% to 20%. So it would be helpful if you could share some color on that. Thank you.

{C: Soren Skou: Chief Executive Officer: A.P. M?ller - Maersk AS:} Unfortunately, we had a little bit of a hard time hearing your question and maybe we -- but at least when it comes to the 22% multi-year Ocean contracts we have, they are all with top 200 clients. So they are there with all the names that you would know, if we were to list them.

We don't want to disclose details about the tariff increases in terminals. But what I can say, of course, is that as contracts are being renegotiated, we are seeing increasing prices and that is also reflecting in the increases in revenue per move. So we are, if you will, in a better position -- in a bit of negotiating position in terminals than probably have been for a few years, I have to say. Yeah, I think that's probably of how much we could hear. Yes.

Operator

And the next question comes from the line of Dan Togo from Carnegie. Please go ahead.

Q - Dan Togo Jensen {BIO 7480447 <GO>}

Thanks a lot. Regarding the normalization scenario that you have for second half. I understand that it will affect spot rates and we will see a low spot rates, but presumably it will also affect your cost base in a positive manner and probably also lead to higher volumes. How much of that is sort of say baked in to this or will sort of say the cost-base be a bit more sticky and any impact, or positive impact will float into '23? And how rapid should we expect this normalization to have will be slow, or will be -- actually be falling off a cliff? So a bit more color on how you see that.

And then a question on the financial side. I mean, you've lifted a guidance by the USD6 billion, have this given any impact on how you think about extraordinary dividends, I mean the distribution to shareholders of this or will you save that for later, so to say? So your thoughts on your distribution on the back of this lift in guidance. Thanks.

{C: Patrick Jany: Executive Vice President and Chief Financial Officer: A.P. M?ller - Maersk AS:} Thanks very much for your question. So the normalization obviously an assumption right that we're discussing. So I think we can always have different views on the assumptions, but we start with assumption and indeed as we earlier commented on the previous question that the contract rate is actually pretty stable and we are very confident on that. And therefore the deterioration of a normalization environment really is reflected by lowering of the spot rates, which come down quite significantly.

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SEC filings. Please refer to our new report Stock Exchange announcement and SEC filings for more details.

These documents are available on our website. I'll now hand over to Bernard.

Bernard Looney {BIO 16947777 <GO>}

Thanks Craig. Hello everyone, and thanks for joining us.

As everyone is aware. We are reporting today against the backdrop of Russia's attack on Ukraine, and the terrible consequences it is having four people in the country and in the region. At BP we have been supporting the humanitarian response through a financial contribution to the relief efforts matching of employee donations by the BP foundation and paid leave for BP staff, who wish to volunteer to support the relief effort. And as we know, the war is also having an impact globally on energy markets and the cost of living, creating a terrible situation for many people around the world.

We are looking at what we can do to provide support, while also remaining fully focused on the day job, which at its core is about keeping the energy flowing where it is needed to. So that end, we are in close contact with governments in Europe. Working hard to provide the energy that customers and economies need. On the 27 of February we took the decision to exit our 19.75% shareholding in Rosneft.

In addition, we plan to exit all our other businesses in Russia. The border undertook a thorough process concluding that Russia's military action represented a fundamental change fundamental change and that BP's involvement with Rosneft a state-owned enterprise, simply could not continue. This decision impacts our people before the conflict, we had around 200 employees in Russia, the majority Russian nationals. We are doing all we can to look after them, including continuing to pay their wages until at least the end of 2022 and looking at options for redeployment.

And of course, this decision has a financial impact. With the today's first quarter results, we have taken a material non-cash charge and as a result have reported a significant headline loss, this quarter. Murray will talk to this shortly. However, the underlying business continues to perform.

Importantly, we have accommodated the loss of future Rosneft dividends within are resilient financial frame which remains unchanged as does our strategy. Now turning Now turning to BP strategy. Current events emphasize that the world faces in energy Trilemma. We need energy that is not only cleaner, but also reliable and affordable.

And in our view, these are not mutually exclusive. This is exactly why we outlined our strategy in 2020 to become an integrated energy company, to deliver resilient hydrocarbons to provide energy security today. While at the same time, investing at scale to accelerate the energy system of the future. We have been delivering step-by-step ever since.

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So, congratulations results. First question. Just, I think the stick to my questions, you all make her Outlook and just in the context of your loan 10 press. And it's a years ago you talked about more bearish to longer of you.

And within that context. I want to give you an update when your Macro outlook. Thank you.

A - Unidentified Speaker

Very good.

Good morning. Christyan. Sounds like you're traveling. Hope all is well on the Macro Outlook, if we talk kind of oil and gas prices in general.

I think there's probably about a million barrels a day. We would estimate off the market today of Russian crude that number, we think will probably increase this month when the existing sanctions come into effect for real. And that number could double. And obviously, And obviously if there's further sanctions we shall see as we step back, I mean, I think stocks are relatively low on gas and oil at the moment filling a bit in Europe, but on gas relatively low overall spare capacity and oil.

I think is relatively low. And of course, a lot of uncertainty out there at the moment. A lot of uncertainty, whether it be what's going to happen with Iran the zero COVIDe policy in China, what's happening with inflation and the knock-on impacts on global economic growth. What's going to happen in Libya? What's going to happen with US Shale? So a lot of uncertainties, I think, where does that leave us I think probably in a world where volatility will continue to be the order of the day.

So, I think we expect continued volatile volatile outlook for energy prices and we probably expect prices to remain strong in the near to medium term. In terms of updating our assumptions, we do that on an annual basis would be doing that Murray in the middle of the year. And I think it's best that we come back to you then with how if at all this current environment has shifted our medium longer term outlook, so we'll come back to that in the middle of the year.

Q - Analyst

Sure.

Just a sort of follow up. I guess, the question was around your capital framing with see higher allocation towards particularly oil investing in the ramp shale. If it were to prove that we're in a more higher for longer environment. So the event that we see a sort of reframing around the long run outlook, could we expect you to sort of allocate all sort of shift investments and potentially slow down renewable? Or is a very much a sort of business as usual no fundamental change just relatives to your two year terms of what is it two years ago, when you would sort of framing your micro outlook in industry.

A - Murray Auchincloss {BIO 20109801 <GO>}

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I think one of the good things that we have is our financial frame is very clear and it's been very consistent. I think discipline is the order of the day. We'll spend between GBP14 billion to GBP15 billion on capital investment this year. Our medium-term guidance around capital is GBP14 billion to GBP16 billion.

There's no change to that. We're going to continue to invest in the hydrocarbons that the world needs today and we're going to continue to increasingly invest in advancing the energy transition, which is also what the world needs. So no change to our plans. Staying with the plan that we have discipline being the important order of the day.

Q - Analyst

Thank you very much.

A - Murray Auchincloss {BIO 20109801 <GO>}

Thanks, Christian.

Operator

Thanks. Christian.

We will take the next question from Biraj Borkhataria to RBC Biraj. Thanks for taking my question. The first ones I have be a straightforward one, but just looking at the differential cash tax versus P&L Obviously, I'm assuming this is just the lag in terms of the rate, which commodity prices increases in flowing through to cash tax. But is there any reason why, let's say a steady-state commodity price environment that wouldn't sort normalize as we move through the year.

And the second question, just following up on the last one. You referenced the energy Trilemma. I'm just thinking, as you're moving away from a crisis management to thinking about the longer term or medium term strategy, you put the press release out today on the UK investments, presumably other governments and stakeholders are probably asking you to do more, but you're sticking with the current capital framework over the medium term if you're spending more to accelerate the transition, where is that capital coming from or where are you sort of slowing down there, doing less? Thank you.

A - Bernard Looney {BIO 16947777 <GO>}

All right.

Thank you, Murray. Tax, your favorite subject from your previous life, I think.

A - Murray Auchincloss {BIO 20109801 <GO>}

Thanks, Bernard. I still try to deny - good morning Biraj on effective rate in cash tax rate on an underlying basis you saw there are effective rate was 32%, our cash tax was a little bit lower than that as it normally is.

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I wouldn't look at the headline that rights they're pretty tricky given the scale of the impairment that we saw last quarter. So you would expect ETR and CTR to close over time, maybe the cash tax rates a little bit lower through cycle. So I would anticipate that 40% effective tax rate that we talked about on an underlying basis. Cash tax slightly less than that.

And of course any one quarter can deviate from that really based on mix of profits and that's what that's what you saw in the first quarter was a mix of profits.

A - Unidentified Speaker

Very good. So, Biraj thank you for your question. I think stepping back, let's just think about our strategy as an integrated energy company.

And as you said, its purpose and we actually said this two years ago, we're not just saying it now. It's rolling life, its purpose is to solve the energy Trilemma. Yes, the world needs cleaner energy, but it also needs energy that's reliable or secure and it needs energy that is affordable. That is the energy Trilemma.

And the role of an integrated energy company is to solve that Trilemma. Now, how do we do that? We do that by investing in hydrocarbons today and you see us doing that with the majority of our investment today going into hydrocarbons, and we do that at the same time., not a or at the same time by investing in accelerating that energy transition transition and we invested in probably about 3% of our capital in 2019 in non-hydrocarbons by 2025, which is just a few years away over 40% of our Ccpital will go into non-hydrocarbons, and that number will be 50% by 2030. The increase that you refer to in the UK, the GBP18 billion in the UK that is part of the financial framework that we have laid out.

We have said within that, that we're increasing investment into UK from what has historically been 10% to 15% of our capital will now go up through this decade to 15% to 20% of our capital. And that's because the policies are in place here in Britain to support that the resources, be they hydrocarbon resources or low-carbon resources are here to enable us to do that and the skills and the education system is here to enable us to do that. So in many ways what you see in the UK, Biraj is a Arash is a microcosm of the integrated energy strategy overall and you're seeing it on a national or country level investing in hydrocarbons. Like, we will do in the North sea today bringing on a new development like we're doing at Merlic and at the same time investing in the energy transition system of the future investing in offshore wind, investing in hydrogen, investing in solar, investing a billion pounds in electrification.

So part of our plan and the increase that you're seeing is an increase in the waiting of capital in the UK, from 10% - 15% to 15% - 20%. Hopefully, that helps.

There are, thanks for your question. We'll take the next question from Martin Rats at Morgan Stanley.

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largely now in the East. BP's refineries are running pretty much flat out at the moment where they can, and we're doing everything that we can to give the market what it needs. I think, gasoline stocks, jet stocks are relatively low. At the moment, diesel stocks are actually globally in reasonable shape.

So, there is a strong environment at the at the moment for refining. I think, we saw RMM up around 17 in the first quarter. I think it's running at 37 Martin, today is 30, 37. So it is a strong environment to refineries that we have are running flat out, the majority of the spare capacity in the world is firmly in the East today.

So, hopefully that helps Martin.

Q - Martijn Rats {BIO 4790496 <GO>}

Thank you.

Operator

Thanks, Martin. We'll take the next question from Lucas Herman at Exane BNP Lucas?

Q - Lucas Herrmann {BIO 21221621 <GO>}

Two questions, if I may.

That sort to be straightforward. Murray first of all divesting proceeds from the year, you've done over a billion in the first quarter, as all should come through the course of this year, 2 billion to 3 billion is starting to sound relatively modest, isn't it? If 3 times as all as being a divestment the proceed coming in as coming in as being a diverse moment. And secondly, if I could just ask around the price lag not least what's happening to US onshore business, and the direction of production, which seems to have moderated this quarter price realizations not based on gas also seeing relatively modest but if you could expand on price lives in the Gulf, and why perhaps you have profits there as well. We're not as high as one might have anticipated given the macro - back off.

Thank you.

A - Bernard Looney {BIO 16947777 <GO>}

Thanks, Lucas. Let, Murrat take both.

A - Murray Auchincloss {BIO 20109801 <GO>}

Yes, divestment proceeds, Lucas the overall frame we talk about is $25 billion out to 2025, I think we've got 14 a proceeds and so far -- relative to that promise and you're right regarding, we're guiding $2 to $3 billion a year, we achieve $1.2 in the first quarter, which was a good start to the year.

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We chose tags within 96 hours of the invasion starting. So it was a choice of obviously, in driven by the attack on Ukraine, but at the end of the day, it was a choice that we made and we made that choice because we believe it's in the -- it was both the right thing to do. And it was the right thing to do for our shareholders. The first quarter results that you see today Irene are without Russia's contributions.

So you're seeing BP and how it can perform absent Russia. You see a business that yes, had a good trading performance, but also had its highest reliability in many, many years now, which is fantastic 96.1%. We had our strongest first quarter convenience sales on record basket sizes, believe it or not are up between 20% and 40%. 38% I think in Thornton's in the US between now and pre-pandemic.

So you see a company and what it's capable of and our strategy is to become an integrated energy company and that is about investing in hydrocarbons today, while investing in the energy system of the future. And that's the five growth engines that we've laid out. So I don't see a gap in our portfolio at all. And, I think I will just leave it there.

There.

Q - Analyst

Great, and on cost inflation Irene. I guess it's a cycle that's very similar to past cycles. The first place inside the portfolio's, you see inflation is generally the lower 48% and that's what bpx is seeing probably around 10% inflation.

After mitigation on CapEx, somewhere between 5%, 10%, 5% to 8% inflation. Across a broad range of services on cost. We're not seeing similar levels of inflation outside the US is the continues to be excess capacity inside the supply chain? And so, we're just not seeing that they're on Broad performance. We remain very, very focused on driving cost efficiency into the business through digitization plans that we've often talked about in the past not only in BP expert in the rest of the portfolio.

So we're very focused on it. We believe we need to continue to drive cop cost and capital efficiency because only 15 months ago the price of oil was very, very low. So we're just going to continue to focus on that efficiency throughout the business. And as always bpx is bpx is tackling the front end of inflation right now and they're very very focused on what they can do to mitigate them, hope that helps.

Q - Irene Himona {BIO 1758849 <GO>}

Thanks very much.

A - Craig Marshall Graham Collins {BIO 17129444 <GO>}

Thank you, Irene. Will take the next question from Oswald Clint with Bernstein, please.

Q - Oswald Clint {BIO 15170269 <GO>}

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and mobility, Murray trading power, natural gas.

A - Murray Auchincloss {BIO 20109801 <GO>}

Yep. I also on gas trading. I think that was your question, what are the teams focused on first flow assurance.

Making sure that molecules get from the producing locations to the consumers. We think that's exceptionally important right now given where the world is. So they're very focused on flow assurance and making sure that energy flows generally are trading organization is set up to make profits when volatility occurs and the first quarter was the probably the highest quarter of volatility we've seen. So it's more about volatility.

It doesn't matter if prices is high or low, it's about volatility. So are we set up well for the rest of the year, -- let you judge what's going to happen with the rest of the year? On CapEx and acceleration, we have a lot of options to bring gas forward to help Europe, obviously tortuous in Mauritania Senegal, the first phase is ongoing. We're looking at the second phase that would help in places like Shah Deniz. We're looking at expanding the compression on the pipeline and bringing additional gas resource to Europe across the portfolio in the UK.

We're looking at options around -- to try to draw more gas in as well. Some of the things, we're talking about like blowdowns et cetera. So the organization is very, very focused on what we can do to help the energy flows in the world across many jurisdictions as we point towards Europe right now.

A - Unidentified Speaker

And not just on the upstream side, I guess also so on the ultimate role of trading that we need to remind ourselves is to make sure that the molecules find a home and connecting supply with demand has never been more important than it has been for the energy systems in the first quarter.

So, 55 cargoes of LNG into Europe and in the last five months, 10 of those into the UK We just signed. I think our biggest LNG deal ever actually with co-Gas for 1.8 million tons I think just a few months ago. So, it's not just upstream equity investment story around natural gas. It's also through the marketing and trading business as well.

So hopefully that helps.

Q - Oswald Clint {BIO 15170269 <GO>}

Thank you. Thanks, Oswald. We'll take the next question from Paul Cheng at Scotiabank in the US Paul, thanks and being up early again.

Q - Paul Y Cheng {BIO 17337436 <GO>}

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Thank you. Good morning. Two question, please. First just curious that I mean with Russian invasion, I think just want to see how that impact operationally on your European operation.

Refining of on your European, refining operation. If you could say on the product, new orders being impact within your system. And second question is on Page 27, on your presentation, on your 2030, EBITDA the chart there for resilient rescinding hydrocarbon. It seems may the chance to get the oil and gas business we see couple of billion dollar of the improvement.

Can you quantify or maybe help us to understand a little bit better, where the improvement come from? Thank you.

A - Murray Auchincloss {BIO 20109801 <GO>}

Very good Paul. Thank you. I'll let Murray take Take the second question under European refining system.

We've got four refineries in Europe in custody on and Spain Gelson kirkin and Lingen in Germany and Rotterdam in the Netherlands and I can confirm that all of the European refineries are all of BP's, you're feeling European refineries are clear of Russian molecules. So we've managed an adapted as you would expect and those refineries are running independent of Russian crude today. And with that, I will pass you to Murray for the question on Page 27, which is about 2030 Outlook. Murray.

Yeah, morning Paul. Let's see. If I've hit your question here. You're looking at the resilient hydrocarbon have a dog bridge and you're wondering where the proper where the increase in profit comes from across the decade obviously, the stuff we've talked about it past first of all, we're bringing in the upstream.

We're bringing on higher margin barrels, offsetting decline and the other barrel, so that's a big chunk of it as an improvement in the mix . Second, we have a big focus on cost and improving the cost inside the oil and gas business driving. The production cost per barrel from seven down to six across through 2025. And then holding that through the decade.

Of course, we're seeing an improvement in refining, as the margin gets back to pre-COVID levels. And there were able to optimize the refining slate and last inside bioenergy, where we've got big plans to expand across five plants around the world. And those are in the engineering design phase and we're looking forward to our first investment decisions in the next 12 months. So that gives you a sense of where the growth is coming from 2021 to 2030 and these slides we put in the slide presentation to just restate without Rosneft to make sure to make sure that our guidance was clear.

Hope that helps Paul and happy to take more questions on the South Side call later today if you'd like.

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A - Murray Auchincloss {BIO 20109801 <GO>}

Yeah, I think my boss answered the question Lydia. Nothing changes. Dividend number one priority need to make sure it's resilient and we can pay it at $40 balance point.

We think that's exceptionally important. It was only 15 months ago that to go that the oil price was in the 40s. Second. We need to continue to reduce debt and, we're very pleased to see eight straight quarters now down to $27.5 billion of net debt.

Third, the lesson of the past 20 years to stick with capital discipline. Every time, the oil price rises in the past. We spent an awful lot more as a sector and we destroy value and we're focused on not destroying value. Now, continuing to drive efficiency into all of our spend whether they be CapEx or cost and then no change to what we do with our Surplus 60% to share buybacks and 40% to debt-reduction.

Hope that helps Lydia.

A - Unidentified Speaker

Thanks Lydia.

Thank you. Lydia will take the next question from Chris Kuplent at Bank of America.

Chris.

Q - Christopher Kuplent {BIO 16833817 <GO>}

Very good morning, two quick questions, please on Russia and your exit. Can you elaborate a little bit? What wait a little bit. What criteria you are going to loot to use for selecting buyers coming forward for your Rosneft stake.

Is it purely on highest price or that other considerations you're going to take into account. And obviously, this is for the market I believe not just about price, but also about time it takes for you to finally actually exit in reality. And then to your energy Trilemma point, and I appreciate your going to update us later on changes to your longer term commodity price assumptions, but could you perhaps comment again, about BPX isn't partly the idea of having short cycle in your portfolio made for this time? Is it because of the hedging that you referred to earlier? And I'm by no means suggesting you should significantly upgrade your CapEx. But if there are opportunities out there with 1, 2year payback.

I wonder I wonder why your CapEx message hasn't changed if at least not in the composition of the overall CapEx, so maybe let me wrap-up by asking as to that press release regarding the UK investments, which of these have actually changed? We've been in this new world energy order for the last I guess 10 weeks, which of your CapEx numbers, if any do you think have changed and that you're representing in these press releases. Thank you.

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A - Murray Auchincloss {BIO 20109801 <GO>}

Very good, Chris. Thank you.

I'll let Murray talked about bpx and what we're doing there. You're beginning to sound a little bit like Dave Lawler, who runs that business. So he's always looking for more capital. But we'll take that question.

And on the plans that we've announced as you would have seen many of these things I have been in place. Many have been put in place over the last several months as the government has rolled out, its policies, supporting the drive and electrification. That's what's allowed us to commit to a GBP1 billion in electrification through this decade and the government has just published its energy security strategy for the UK And I think, we can expect to see further investments coming over the coming months from BP and support of that strategy. So I would say, watch this space on that all within that you should not expect to see our overall capital frame for BP change.

On your question on Russia, I will unfortunately say the same thing to you as I say to everyone else when it comes to commercial processes, we don't comment. We have a policy and not commenting and and we're not making an exception for this particular case of Russia, this morning will come back to you and update you once we know more. Murray on BPX, please.

Yeah.

On BPX Chris, we have increased the amount of investment going in. Last year you'll remember we spent around a billion dollars. This year we're spending somewhere between $1.6 billion and one $1.7 billion. We'll see how we go through the year.

Our focus inside the Permian is in building out two big gathering systems. They should be up by the end of the year. And at that stage will have the capacity to ramp-up drilling more. Right now, we don't have the capacity to ramp up drilling more in the Permian.

And then in Haynesville Eagle furred with ourselves and with partner operated we're increasing investment there. I think we're up to nine rigs now. So yes, we are increasing the investment in there and it's all about doing it efficiently. We don't want to ramp up too fast, or we become inefficient, and we want to make sure that we've got the facilities in place to ensure that we don't we don't flare or event methane as we go through the expansion and the permian.

So very happy that we're investing upwards to 1.6 to 1.7 and we have plans further in 2023 and beyond to continue increasing CapEx remember that, we're trying to get a dividend out of bpx having bought the assets from BHP a few years ago. We're now trying to get our money back, so we're looking for a dividend out of that entity, Bernhard back to you.

Q - Christopher Kuplent {BIO 16833817 <GO>}

Understood and therefore no change to your hedging policy, there. policy.

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A - Bernard Looney {BIO 16947777 <GO>}

Thank you, Chris.

Q - Christopher Kuplent {BIO 16833817 <GO>}

Thank you.

A - Craig Marshall Graham Collins {BIO 17129444 <GO>}

We'll take the next question from Alastair Syme, Citi. Alastair.

Q - Alastair Syme {BIO 1729060 <GO>}

Craig, first question just saw on the -- guidance that you have out there. Is it any reason why that guidance wouldn't apply to the RM environment. We're seeing what it's a date I do just use that guidance in 2Q? And then secondly, on the low carbon comment specifically when I was seeing another profit warning from a wind developer yesterday, just really again, bit of back to this point on inflation it just seems --it seems to me, is over some losses, some other system either you guys or the supply chain that is unable to pass on the increase in cost. But the seeing in the supply chain.

Thank you.

A - Bernard Looney {BIO 16947777 <GO>}

-- thank you. I'll ask Murray to take the question around RMM and I think rules of thumb and guidance. On low carbon, certainly the on offshore wind and particular I think a challenging market place on a number of dimensions, including for suppliers in that sector.

A couple of things I would say, number one, we will only do projects that meet our guidance of 8% to 10% returns. We recently bid in a around the license round in the United States and we are unsuccessful. And I hope you take that as a sign of discipline. We've got over 5 gigawatts net of offshore wind in BP today, that's up from zero about 18 months ago.

We're comfortable with the portfolio that we have. We obviously want to grow that. But we don't want to grow it at any cost or at all costs. So we are very disciplined and we will look at future rounds in Holland, in Norway, in Japan, you will receive the announcement with Marubeni.

So it's a case-by-case basis. They're all very, very different containing very different upfront commitments and so on. And we'll do it on a case-by-case and if we can't meet our returns, we won't do it. And in the second thing that I would say, is that you are seeing cost increases in the sector.

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You are seeing our re-sharing, I guess of an opportunity to re-share risk reward across reward across the entire supply chain. BP should be well placed to do some of that we can hedge steel prices where a massive consumer of upstream, stealing our upstream business. So these are the types of things that a IEC can do that, others may struggle to do. And we're also seeing in some cases a knock-on impact on the power prices, where power prices are going up to ensure that the investments remain economic as you would expect the market to do.

So yes, some challenges out there in that sector with a desire of the world to do more as there is the UK going up by 10 gigawatts people increasing hydrogen ambitions and so on, there was a continuing need for this form of energy. We will do it and we will invest in it and bring our skills, but only do it where we can make the the investment returns with promised the market. So hopefully that helps you out a stir and Murray guidance.

A - Murray Auchincloss {BIO 20109801 <GO>}

Yeah, on RMM guidance, it's a bit tricky to figure out how to guide right now.

We haven't seen this level of RMM before in the past. So, the rules of thumb would be a starting point things to think about CO2 prices are very high, gas prices as inputs into refineries are very high and market dislocations locally are very high. So I think start with the rules of thumb and then I came off a bit out. Wish I could give you better guidance than that, but we have not seen prices like this before, so we'll have to learn with you as we move through to Q2 and Q3 and understand how they work at these higher prices.

Last comment with there's a big year of hours ahead of us, and we've got a couple big Tarzan 2Q as well. So that's something to consider. Hope that helps.

Q - Alastair Syme {BIO 1729060 <GO>}

Thank you.

Operator

Thnaks, Al. We'll take the next question from the Michele Della Vigna at Goldman Sachs, please. And once again congratulations on the results. I was wondering if you could give us an update on the 405 key projects that drive your growth over the next couple of years? I'm thinking in particular of Mad Dog -- to and Trinidad and secondly, I was wondering if the revival of long-term demand for LNG, makes the next phase of 22 more likely and especially given the need for long-term contract for project financing there? Thank you.

A - Bernard Looney {BIO 16947777 <GO>}

Very good, Michele. We might tag team this one Murray maybe lead on the chances outlook for the next phase of -- which is, I guess only in improved by today's price environment. On the projects, you've mentioned the big ones, Mad Dog Phase 2 is doing during well actually on location, I think I think all of the sub-seas is connected now, we've had some real challenges out there with Luke Carnes, which happened in the Gulf of

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We will refer to the slides of prepared remarks that are available on chevron's website. Before we begin. Please be reminded that this presentation contains estimates projections and other forward-looking statements. Please review the cautionary statement on Slide 2.

Now, I'll turn it over to Mike.

Michael K Wirth {BIO 3445929 <GO>}

All right. Thanks Roderick. Before we turn to first quarter results.

I'd like to recognize the people of Ukraine. Our hearts, go out to those affected by this tragedy and we hope for a prompt and enduring diplomatic resolution. last two years have been volatile and unpredictable driven by the global pandemic and geopolitical conflict creating strains on economies and markets around the world through it all our objectives have been clear and consistent and in the first quarter we continue to make progress delivering book returns in the mid-teens investing to grow both our traditional and new energy businesses and returning even more cash to shareholders while maintaining an industry leading balance sheet recent events remind us of the importance of energy looking forward I know that Chevron is doing its part raising this year's Permian production outlook and advancing to important renewable fuel transactions are Bunge JV, which is expected to close shortly and the renewable energy group acquisition, which is expected to close around mid-year while the future is uncertain our actions are not-- a path to delivering higher returns and lower carbon, and rewarding our stakeholders all along the way. With that, I'll turn it over to Pierre to discuss our financials.

Pierre R Breber {BIO 18332161 <GO>}

Thanks Mike. We reported first quarter earnings of $6.3 billion or $3.22 per share. Adjusted earnings were $6.5 billion or $3.36 per share. included in the current quarter were pension settlement cost tolling $66 million and negative foreign currency effects exceeding $200 million.

A Reconciliation of non-GAAP measures can be found in the appendix of this presentation. Adjusted-- was over 15%, and our net debt ratio is below 11% . A third consecutive quarter with free cash flow over $6 billion enabled us to return $4 billion to shareholders, and further paydown debt. In addition, during the quarter we received over $4 billion in cash, when about 3,000 current and former employees exercise stock options.

This court has proceeds from option exercises for over 4 times historical annual average of around $1 billion per year. About two-thirds of the vests adoptions at year-end 2021, or exercise during the first quarter. Lowering the potential future rate of dilution from the outstanding balance. Over time, we expect our share buybacks to more than offset the first quarter dilutive effect.

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Thank you. (Operator Instructions) Our first question comes from Phil Gresh with JP Morgan.

Q - Analyst

Hey, good morning.

Thanks for taking my question. Mike, I'm going to start with one for you, on--, there have been a number of events here in the quarter from the social unrest earlier in the quarter, to the CPC pipeline uncertainty and-- issues so I recognize production seems to be back up and running to normal now but I'm curious how you think about this in terms of the broader implications of what has been happening on the ground there and it's a very important asset for Chevron so what are your latest thoughts?

A - Michael K Wirth {BIO 3445929 <GO>}

Well, Phil, it's an important asset not just to our company but to the republic of Kazakhstan and frankly to world energy markets in Europe in particular it's a significant supplier at a time when there are concerns about supply security that you're very familiar with so we're focused on safe and reliable operations, as you would expect protecting people in the environment at our assets executing the major project that's underway and working with all the stakeholders that are involved in this so this That includes partners that includes obviously the government of Kazakhstan and in our customers. So the risks that I think you're referring to our risks, that our present in Kazakhstan and in varying degrees in other parts of the world as well. And that's part of what we do is manage those risks on the ground each and every day, excuse me, there are times when the environment feels a bit more benign, but you can't take your eyes off those risks because they can materialize at any point.

So, to this point in time, we've been able to make good progress on the project some impact really from the weather-related downtime at the loading buoys at Nova or Sisk but two of those are back in service and the third one is slated for repair which would give us plenty of redundant capacity there so we continue to stay very focused on every aspect of managing that our people on the ground are empowered to do what it takes and to be very responsive in real time and I'm incredibly proud of the work that they've done in a very challenging environment.

Q - Analyst

Understood appreciate your thoughts. My second question would be prepare on cash flows or cash balances the quarter did come in a bit lower than expected on cash flows and I think you highlighted some timing factors but you did get a bunch of cash from the stock vesting so cash balances are up quite significantly, so I was wondering if I don't know if there's anything else to highlight on the moving pieces of the cash flow, but even at prices with your buy backs is seems that cash balances will keep going up. So just what are your latest thoughts on managing the cash from here? Thanks.

A - Unidentified Speaker

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Q - Devin McDermott {BIO 19137879 <GO>}

Hey, Good morning thanks for taking my questions. So the first one I wanted to ask is just on the Permian results and guidance increase I was if you talked through in a bit more detail some of the drivers there you adding activity is it better performance on the activity you already budgeted for not operated just walk through some of the drivers there and how you're thinking about that?

A - Michael K Wirth {BIO 3445929 <GO>}

Yeah, Devin, we did have a strong first quarter and a couple of big things to bear in mind there as we as we slow things down in 2020 when demand contracted due to the pandemic. What happened is we ended up with an inventory of drilled, but uncompleted wells that grew beyond, would be kind of a normal run rate for our rig fleet? And so, we've been working through that and we're back down now to what you could think of as a more normal factory model always want to have ducks out in front of the completions -- but that had grown to a larger than normal rate.

So, as we've caught that's pretty efficient, it's the first place you turn. As you see the cycle turn is completing those wells to get that production online and we'll be moving into a more of a factory model. So, it'll level out a little bit versus what might feel like little bit of a search. We also get some non ratable joint-venture, bookings that show up and, so both of those contributed to a very strong first quarter and of course, by the time you look at how that would roll through and the continued activity for the rest of this year, it's pretty clear that we'll end up higher than the initial guidance that we had put out, so it but we haven't stepped up our program, we haven't stepped up number of rigs, we haven't stepped up spending.

It's all really a function of getting the machine running again, and then underneath factors ongoing efficiency improvements that we continued to see.

Q - Analyst

Got it. It's very helpful. Thanks.

And my second question, is on your global gas and LNG portfolio, and I was wondering if you just give us an update on how you're looking at some of the medium and longer-term opportunities there, given what's going on in market and specifically I'm thinking about Eastern-Mid and that-- position and then also, whether whether or not integration into some type of LNG facility in the US might make sense for some of your production growth there as well?

A - Unidentified Speaker

Sure. So, LNG is on everybody's mind these days. It's important to meeting Europe's needs, it's important to delivering a lower carbon energy system globally, and we see this strong market here in the near-term. Eastern -- is a wonderful asset, I was just over there two weeks ago.

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I visited the Leviathan Platform spend a lot of time with our people in the business there. And they've recently completed a project to increase infrastructure access to regional markets, and we're actually flowing more gas into Egypt as a result of that. We're looking at a number of other opportunities to further increase production because the resource there is quite prolific and that includes further coal to gas switching in Israel, for the regional supply into neighboring countries potential power generation for power distribution through the region floating LNG potentially using in other LNG, facilities in the region a number of different commercial options that are being evaluated worked so more to come as those mature but it's an area of high priority for us because the market demand for it when you look at the at the US clearly we've got a lot of gas production here that largely prices and Henry Hub today and there are these projects that are in the process for LNG export facilities we've had discussions with a number of those developers nothing to say more than we've had discussions at At this point, but that's a part of our LNG portfolio that we've been very focused on the Pacific basin historically and as the Atlantic Basin markets, now look a little bit different as we flow gas from our West African assets into the Atlantic Basin. It may make sense for us to have some US supply as well.

So will advise you as we as we advance anything there.

Q - Analyst

Thank you.

Operator

Thank you. We'll take our next question from Neil Mehta with Goldman Sachs.

Q - Neil Mehta {BIO 16213187 <GO>}

Good morning, team Mike I just love your perspective on the oil macro. You always have a good read on it. It strikes us that inventories for product and oil are very tight right now. You've got jet fuel recovering over the summer.

We'll see what happens in China shell has an inelastic supply response. So how does this ultimately resolve itself in the near term, the ultimately need to solve for demand destruction through-- or flat price of oil or is there something that we're missing?

A - Unidentified Speaker

No Neil, I mean you're putting your finger on all the levers, that if you step back from it, supply always responds more slowly than demands does. And in normal times which we have not been in for the last couple of years, both of them, kind of gradually move in relative, sympathy with one another you've got storage out there that can buffer any, near-term imbalances, I'm repeating what you all know, but in 2020, we saw a contraction unlike anything I've seen in my lifetime, and we had to really constrain activity there was no sense producing more oil the world needed a lot less and it wasn't clear at the time, how long that might last and how deep it would be. And so, the entire industry, every segment of the industry responded to that.

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And then as we've come out of the pandemic, demand growth has searched. And as you say, we haven't seen it all come back yet, air travel, while, it's a domestic air travel and -- is pretty strong international air travel still has a ways to go recover to pre-pandemic levels. And then China and other parts of the world are still in various stages of lockdown at various points in time. And so, we haven't seen a full recovery of demand there.

So, even with that demand has now responded more quickly than supply can match it. And then you overlay a host of other issues, right? The independent in peace feeling more of an obligation to return cash to their shareholders some of the big integrated companies have re-prioritize new energy versus traditional energy and have indicated they can tend to shrink rather than grow their oil and gas production and then the arrow season going around the world everybody's got a little bit of a different situation so it's a market that is not stable it's not an equilibrium right now as you say, inventories are quite low demand is still strong and economies to this point seemed to be handling it at some point particularly if prices were to move higher I do think it starts to be a bigger drag on the economy than what we've seen to this point but there's a lot of tension in this market and the supply response is coming we're up 10% in the US The US year-on-year. We're working on the big project in Kazakhstan, which will start up over the next couple of years and others around the world have got things that they're doing as well, but it just comes in at a different pace than the demand has moved. And I think we're in a market that's it's tight right now that has a lot of uncertainty and I think that is not likely to resolve itself in the near term the certainty things like the spr release and the near-term can do a certain amount to calm those markets, but over time it's a cyclical business that a lot of resources out there that can be produced at prices lower than we see today.

And one of the lessons is history is just as the bad times don't last forever neither do the times when prices are strong and so we can't start to believe they'll always be like this, but I think but I think in the, the relative short term here, the tensions that you referred to or likely to remain.

Q - Analyst

Yes, it's great perspective Michael. Another big picture question is, if you think about 20 years ago at the beginning of the last supercycle, you had very similar very large multiple arbitrages between the super majors and even large independence and some of the majors and one could look at your multiple on consensus say you would trade a premium relative to a lot of the global majors. Do you think there's value in mega M&A in the space? And do you see yourself as a logical consolidator given that M&A, such a core competency and it worked out incredibly well for you 20 years ago with Texaco.

A - Unidentified Speaker

Yes, we're always looking at these things Neil. I think history would suggest suggests that deals done in an up cycle or near the top of the cycle, don't necessarily look is well in hindsight as deals that we're done in a different part of the cycle. 20 years ago, when there was a number of transactions that you refer to we were coming out of oil prices in the 10s or the 20s and so consolidation made sense. There were a lot of synergies to be harvested as you put some of these companies together.

I think the entire industry is more efficient today then it was than certainly large companies, which you refer to kind of large-scale M&A And so, I think the synergy opportunities while no doubt there would be some, how they may not be of the same magnitude that they were 20 years ago. We've all used technology and other things to improve the efficiency of our operations. So, I never say but, I don't know I don't know that just because we're trading at a relatively strong multiple right now that should lead you to believe that it means we're more likely to do something than our track record of discipline would suggest.

Q - Analyst

Thank you, Mike.

Operator

Thank you, we'll take our next question, from Jeanine Wai with Barclays.

Q - Jeanine Wai {BIO 16974257 <GO>}

Hi, Good morning everyone thanks for taking our questions.

A - Michael K Wirth {BIO 3445929 <GO>}

Morning.

Q - Jeanine Wai {BIO 16974257 <GO>}

Good morning, our first question maybe we just hit back on cash returns the buyback for 2Q analyzed again is at the top of your range and PR I think you reiterated on Phil's question that buybacks are intended to be through the cycle can you just maybe provide a little bit of commentary on how you're viewing the buyback and relation to mid-cycle cash flow?

A - Michael K Wirth {BIO 3445929 <GO>}

Thanks Janine, buyback rate of 10 billion is a company record in previous highest buyback rate was back in 2008.

And as you say, we want to maintain it across the commodity cycle. So we're very in tune with what our mid-cycle cash flow capabilities. We showed at our Investor Day allocate that $50 Brent and showed that we could maintain the buyback for multiple years, even though 50 is notionally right around the break-even for covering both our dividend in our capital. And then of course, we showed a high case of 75 where buybacks were in fact higher than the current $10 billion guidance.

And we could buyback at that point in time. It was more than 25% of the company's the little bit less based on the current stock price. So that's exactly how we're thinking about it to Neil's question and the macro it was just two years ago today. on this earnings call that Chevron was the only company to show a two-year stress test at $30-- and that was a

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real stress test, and we showed that we could maintain the dividend invest in the business for long-term value, we certainly reduce some short cycle capital.

And yes, we would take on some debt but we'd have a debt ratio that would still be very manageable and in fact, we would be not far from where many of our competitors were entering the COVID crisis. So, as Mike says remindful of the cycles that are in our business, we have to plan and manage for them. Again, we could have, we can afford a much bigger buy back program next quarter, but we don't, Jeanine in that a net debt ratio under 11% is not what we're targeting, I mean that's just how the math works, we grew our dividend 6% earlier this year. dividend is up nearly 20% since COVID, while many in the industry cut their dividends during the last couple of years.

Our investment organic investment is up more than 30% versus last year, when you include our announced acquisitions, total investment is up 50%. So, clearly we're investing as Mike has said, to grow both our traditional new energy businesses. We've paid down debt and we've been increasing our buyback as we've seen the strength of this up cycle and the likely duration of it increase. But, the cycle will turn and will continue to do buybacks.

And so, we want to set the buyback at a rate, that we can manage it not only at our mid-cycle cash flow generation capability, but even when it goes below that. Again, there's going to be a time, we're going to be buying back shares. And we'll be doing it on the balance sheet, because will want to re-lever back closer to that 20% to 25% net debt ratio arranged that I've talked about.

Q - Analyst

Great.

Thank you. Very helpful. Maybe if we just can move back to the assets on the Permian. Permian for you guys.

It was firing on all cylinders clearly have a big asset there with huge long-term value. One of the things that has been talked about a bunch recently is just ft on the gas side and how you kind of see that evolving. Just wondering how Chevron is looking at that for your long-term plan. Thank you.

A - Unidentified Speaker

Yeah Jennie we glad you talked about long-term plans because we've had a long-term Permian plan and interestingly notwithstanding one of the most volatile two-year periods we've seen. Our production profile doesn't look that different than it did just a couple of years ago, in terms of where we're headed. And of course that drives everything from contracting for rigs and completion services to take away capacity for oil and gas liquids and gas we've got sufficient takeaway capacity for our production through the middle of this decade and as we look forward we're working on what it takes beyond that period of time so we don't flare in the Permian and so we've got to be sure we've got gas take away or we're not going to produce oil and so it's a high priority for our midstream team

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but we don't see pinch points anytime soon and we continue to be a very attractive shipper for the people that we do business with because we're predictable we've got a strong track record of continuing to deliver the growth that we have indicated we got a strong balance sheet and in and all those things mean that people like to do business with us, so we feel pretty good about that for the next few years.

Q - Analyst

Great.

Thank you.

Operator

We will take our next question from Paul Cheng with Scotiabank.

Q - Paul Cheng {BIO 17337436 <GO>}

Good morning. Two question please.

First on the in the inflation. Pierre I just curious-- for your CapEx for the next say two or three years. Do you have a percentage you can share what percent of your-- pretty much fixed price contract, so don't subject much to inflation, and what percent, is really quite wonderful to inflation. And also when we looking at your CapEx for this year, the Bunge-- $600 million investment is that you included in your regional project or that this will be in addition to your regional project? That's the first question.

The second question, maybe it's for my, that with the much sharply higher commodity prices, when you have discussion and negotiation with the NOC the host government. Is there a change in the attitude or that you become more difficult for you to get better terms, or that this is happening too quick and so, the you haven't really see and changing the way how you conduct a discussion with your counterparty the national companies or the host customer? Thank you. (multiple-speakers')

A - Unidentified Speaker

I'll, start on first questions, their set of parts the first Bunge joint-venture anything that is an acquisition inorganic is not included in our $15.3 billion budget that we shared back in December. So I think, we cited that, in fact in that press release that Bunge would be.

In addition, and then the other potential inorganic there was a little bit of inorganic in the first quarter that included an investment in carbon clean a technology company REG also will not be included, you won't see EEG though even in our total capital, our total see need because it's a company acquisition. Let me just talk about in cost inflation a little bit. We are seeing more cost pressure in the Permian. It's manageable, but if we go outside the US seeing hardly any or much more modest increases and none of that is changing our $15.3 billion CapEx budget that we've talked about.

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I'll remind everyone that the Permian is 20% of our capital budget. So it gets a lot of attention, but again 80% of it is not or outside the US is not seeing much cost pressure at all. In the Permian as Mike said, we plan our business. So we have all the equipment and services to execute our plan.

And we've seen a little bit more that we than we had budgeted, but we can offset some of that with efficiencies in the Permian and with reductions elsewhere in the portfolio. Our focus is turning to 2023. And securing all the equipment and services that will need to execute that plan, but we'll share the details as we update our annual budget, which we do every December. In general Paul you can think that we contract 30% to 40% of our total supplies each year.

So, what that every two to three years on the rotational basis it can vary it depends by location, but we don't notionally we are going to be exposed to some of these higher prices as we move into future years and we've been able to manage this year very well depending on due to how we contracted previously. Our $15 billion to $17 billion capital guidance, which goes on for five years kind of assumes mid-cycle condition. So it has the ability to absorb some of these cost increases that are transient and so we'll execute within that. We have tank he's coming off which will open up more room in that capital guidance.

And again, we'll share all the details when we release our capital budget in December, but the bottom line is are seeing modest increases. We said overall, our capital budget had just a few low single digits of cogs inflation for this year a little bit more than the Permian it's all very manageable and working hard to secure contracts for future years activity. Mike?

A - Michael K Wirth {BIO 3445929 <GO>}

Okay. Paul, your second question was on discussions with host governments on concessions and how that may be affected by the price environment.

I would tell you that right now, we're pretty early into this price up cycle. And I'm not sure that I can say we've seen a lot of change as you know, people are really adjusting to the environment, where in. But on the broader issue of concession extensions, look we've got I find these opportunities in negotiations that create value for the company and for the host country. And so you really have to look at it through the lens of both.

We have long histories in both Indonesia and Thailand would have liked to extend those concessions that our rolling off last year and this year, but we couldn't find an outcome that satisfied. The host government's expectations. And that would compete for capital within our portfolio, which has got a lot of alternatives. The flip side of that is Angola were we last year extended our block zero concession from 2030 after 2050.

And that's a partnership that started more than 60 years ago. And there was a lot of common ground there on contributing to reliable in cleaner supply for Angola reducing greenhouse gas emissions there, and finding a way to do that on terms that will attract capital within our portfolio. So, we approach each one of these things looking for value for

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our shareholders and to provide a proposition for other stakeholders that they find acceptable. Sometimes we can achieve that other times, we can't.

So, more to follow probably in terms of in terms of with this terms out to be a long up cycled, how that may change those dynamics, but I think the fundamental approach that we take is unlikely to change.

Q - Analyst

Thank you.

Operator

Thank you. We'll take our next question from RogerRid with Wells Fargo.

Q - Analyst

Yes, thanks. Good morning.

A - VCX

Good morning Roger.

Q - Analyst

We could maybe talk a little bit about some of the bigger projects thinking about your answer earlier Mike on some of the macro items, and go under investment, I know you have some things in the Gulf of Mexico, you've obviously got an extensive LNG footprint globally.

How do you think over the next couple of years blending in your-- deepwater projects, and then the possibility of doing something again on the LNG front.

A - Unidentified Speaker

Yes, so we've got a nice set of projects under development in the Deepwater Gulf of Mexico, JackSt. Malo as a multi-phase pumping project that will start up this year. Next year, we'll hit the first water flood injection on malo and some additional development drilling there.

Bigfoot, which is on production right now, we've got ongoing development drilling in water injection soon to follow Mad Dog 2, is slated for first oil this year. We've got anchor, which is expect to have first oil in 2024, well also of expecting to have first oil in 2024, we just sanctioned -- more which will have first oil in 2025. So, there's -- of these things that is rolling through and what's a little bit different than in the past? Is there not all in the same phase of development at the same time? So, I gave you those kind of in order of when they come on production, but we don't have them just sitting on top of each other so, a lot of the lessons of maybe the last upcycle were don't take on more than you or your suppliers and contractors have the capacity to do well in any given period of time and

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we're really trying to apply that here. So, it doesn't get as much attention our interests as we get from the Permian these days or Kazakhstan, but really important part of our portfolio really nice projects and very low carbon energy for the world.

I mean, this is some of the lowest carbon intensity stuff in our portfolio average is about 28 kilograms of CO2 per -- Our Gulf of Mexico average is 6, so it's not only economic it's low-carbon it's something that the I think that our country is blessed with and should continue to advance leasing in deepwater Gulf of Mexico. On the other question LNG I addressed earlier a little bit of we got number of options in the Eastern Mediterranean. We're talking to some people here in the US You may have seen media reports that we have been talking to people in the middle east about expansion projects there. So we're evaluating a number of different opportunities.

We'd like to grow our LNG position the world needs it, but similar to my response to Paul it's got to compete for capital in our portfolio Pierre mentioned we're going to stay disciplined on capital. We've given you a range we've stuck within that range ever since we started putting that out here and that that would be the intent. So, just because something looks good through the lens of growth and commodity exposure is also got to compete for capital in a discipline budget and so what you see which of those ultimately if any -- that screen.

Q - Analyst

That's great.

Thank you.

Operator

Thank you. We're going next to Ryan Todd with Piper Sandler.

Q - Ryan Todd {BIO 15158570 <GO>}

Thanks.

Maybe a follow-up on LNG and the last couple of quarters have been impacted by various LNG volumes offline. I do you have we've done LNG -- payments and second quarter. Any kind of clarity you can give in terms of how much volume in fact that might have and beyond that. Can you give an update as other potential volume disruptions across your LNG operation?

A - Unidentified Speaker

Yes.

so so, In the first quarter, we had a little bit at Gorgon from some of the things that we had talked about earlier. So some discovery work that was proactive not related to an incident that it was acid integrity work across all three trains, little bit of that came into the

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first quarter of this year. Wheatstone has a turnaround underway right now of one of the two trains and also the offshore platform and some common facilities which that requires both trains to come down when you take the offshore and council these down. The good news is that part of the turnover is behind us right now and we're in the process of resuming production of one of the two trains their a Wheatstone and should have first any day now.

And actually the second trend will be early May, so we're nearly through that turnaround, then we also have a turnaround in Angola LNG And so that'll be in the second quarter, late in the second quarter, and those that's really we've got planned for this year.

Q - Analyst

Thank you.--

A - Unidentified Speaker

Second quarter takes all the plan turnaround activity essentially or the majority of it.

Q - Analyst

Okay.

And then maybe a second question on refining. Can you talk about some of the, I guess as you think about the some of the headwinds that there were maybe fell during the first quarter and, relative to headline margins, whether it's lagged on timing effects or secondary products or things like that. Can you talk about how some of those trends may reverse or shift into the second quarter looking forward? And how you think about the ability to kind of capture some of that back? As we're looking through second quarter and third quarter?

A - Unidentified Speaker

Yeah, I'll take a pass that a might want to add something look. We see this in our downstream business, we're a little bit differently positions than some of our peers and that we've got pretty heavy US West Coast exposure and heavy Asia exposure, but then we're pretty light in the Middle East or Europe and some of the other basins.

So, our portfolios a little concentrated or more so than others. And so, we're subject to the dynamics in those markets China has been in a lot of kind of ongoing lockdowns. California, frankly frankly has had a little more aggressive COVID policy longer than some other parts of the world, and so demand has reflected that to a certain degree, and then in a rising crude market, we have two effects that tend to roll through our downstream, one is just the way our inventory is valued and so the a rising market, we tend to see negative inventory effects due to the life-- counting that we use, and we also tend to see we're long physical in short paper as we, try not to take price exposure that paper marks to market until the physical-- and so, in a rising market, your papers marking negative the physical obviously is gaining. And so you see that paper and then, the physical delivers

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you closed out the paper, and you match those up, so So, in a rising market those two effects tend to cause negatives.

I think in the second quarter this year, we'll probably see a lot of that reverse.

Q - Ryan Todd {BIO 15158570 <GO>}

Okay. Thank you.

A - Unidentified Speaker

Thanks, Ryan.

Operator

We'll go next to Manav Gupta with Credit Suisse.

Q - Manav Gupta {BIO 20380315 <GO>}

My first question is a quick clarification. You did indicate there was a storm at CPC, I think it came somewhere late March, but it impact would probably be felt more in 2Q so, help us understand how long the facilities were down? And how should we model the impact on production, because of this particular storm?

A - Unidentified Speaker

Yeah. So, you want to handle up here go ahead.

Yeah, that's in our and guidance Manav that we provided in for second quarter production impacts impacts from planned turnarounds and downtime and again, the CPC PCO impact is about 15% or less than 15% of that total.

Q - Analyst

Okay, and the second thing is

A - Unidentified Speaker

let's you right was late merge when it gave up so the effect is really in the month of April.

Q - Analyst

Perfect at your energy transition day you had provided certain targets for growing your renewable fuel franchise and Reggie gets you a very long way when it comes to renewable diesel. But another area you were generally bullish on was sustainable innovation fuel.

You are indicated that long-term you believe this is a big growth market. So can you help us understand since then and going forward, how to Chevron plan to build on its sustainable innovation fuel business. Thank You.

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A - Unidentified Speaker

Yeah, we obviously innovation demand is going to grow Yes, as we go forward and finding a solution of the hardest to decarbonize, segments of the economy, because you need to have high energy density for aviation fuels or planes can't carry much in terms of in terms of their cargo.

So, it's an area of focus in a traditional refinery, the distillate, portion of the barrel you can move molecules from diesel to kerosene our jet fuel and the renewable diesel investments that we're making there's a certain flexibility that you have there as well. And so, we will have the ability to produce. In fact, we've already produced sustainably aviation fuel and El Segundo and we'll see more of that coming through some of our renewable diesel facilities. We have also got negotiations underway with some other companies that have different technologies, that wouldn't necessarily, be the same as what we would do in a refinery and so we're looking at alternate pathways, feedstock partnerships and pathways, this is all going to take time to come together, quality control is really important in aviation fuels, reliability of supply is really important.

And as we introduced new feedstocks, new technology pathways you have to be really diligent in ensuring that the fuel that you ultimately produce and sale is going to perform in the engines that it's going to be consumed into. The last thing I'll say is none of this stuff is inexpensive, and instead aviation fuel today is not competitive with traditional aviation fuel from a cost standpoint. There has been some talk in Washington about various policy incentives, that could be put into place to encourage more stable aviation fuel. There's a letter that was published by a whole host of people airlines and others just in the last week or so calling for action.

And I think, to see this scale we got to keep working on technology in -- talks, but it's likely that some sort of policy incentives will be part of the equation in order to see more capital drawn into standard deviation fuel.

Q - Analyst

Thank you.

Operator

We'll take our next question from Doug Leggate with Bank of America.

Q - Doug Leggate {BIO 1842815 <GO>}

Hi, good morning, everyone.

Thanks for getting me on appreciate the time. Mike, Mike, I know you've forgo to debt I guess the questions around CPC Kazakhstan and so on. I wonder if I could just ask us a slightly different question around what's happening to realizations, insurance rates, whether that could be a durable discount on the value of the bar or coming out of Tangue -- and all over what timeline. So, I don't know if you can offer any color there, but obviously, it's something we noticed going on in market.

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A - Unidentified Speaker

Sure. So, pre-invasion CPC discounts were maybe a $1 or so to dated Brent. Post-invasion the trading range is kind of been $4 to $10 in it prices at a pricing point called Augusta, which includes insurance insurance and freight. So, yeah, there's been there's been a move its use is called $7 or $8 today probably.

Now, absolute price obviously has moved up a lot more than that but there's a there's a little bit that you could argue is being left on the table I think a lot of it Doug depends on how things are resolved in Ukraine and what the longer-term posture is relative to sanctions the perceived risk of lifting at Nova receive seek and how that translates into demand from customers and the expectations from shipowners in whether it's freight rates insurance et cetera are people willing to send ships back in there the way they historically have or not. So, I it's a hypothetical I think that I they can't really speculate on how that settles out, but I think it's a function of how this whole situation is resolved and what kind of risks people perceive on the other side of the conflict resolution.

Q - Analyst

I know it's a tough one to ask in this relatively early stages of this whole thing. So, thanks Mike for having--.

I guess my follow-up and I think then may have been-- mentioned earlier but your credentials-- obviously probably the best in the industry and-- like and you've thought so, and well errand but your balance sheet-- as you thought, it's kind of by almost-- 2013, '14 levels if you take projectile a year or so. and, the strategic opportunities as this whole thing of all is particularly perhaps in US gas LNG and so on. So I wonder if I could ask M&A quite a little differently as well, which is when you look at your business today on how you've how you invested? And how you've transitioned to through Noble and so on? Is there anywhere you would identify for one of a better expression a strategic want or a strategic hole that you would like to fill in that? What would that look like?

A - Michael K Wirth {BIO 3445929 <GO>}

Yeah, Doug, I appreciate the comments about our M&A track record in our financial strength. Those are two things that we've worked hard to establish.

I'll tell you, we like our portfolio. We've provided again, I think in this year's Investor Day 10 year outlook that says, how much resource have we captured and could conceivably flow into production. Not that's productions the forecast, it's really a look at resource debt. We've talked a little bit today about gas.

We're a little oilier than most and so over time can we increase some of our gas exposure would be one question. We like petrochemicals. We like to CPChem a lot. We've got a big chemicals business embedded in Korea in GS Caltex.

The growth prospects in the petrochemicals business continued to look attractive. And then, we've been active in new energies and so the renewable fuels business that we talked about, some other things that we're looking at in that space as well. And so, look

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we're trying to leverage our strengths to deliver lower carbon energy to a growing world. And I think that's, that drives the way we think about our portfolio today and tomorrow, and a number of things, I mentioned there, right our lower carbon contributions to economic growth and prosperity.

So that'd be how we think about it, but I don't want to leave the impression that we're off to the races to do anything tomorrow because we like our portfolio as it sits today and don't feel like there's a hole that has to be filled in the short term. So we really can take a long-term look, we can be patient. We can be selective if we decide to do anything.

Q - Analyst

Okay.

Appreciate your comments. Thank you.

A - Unidentified Speaker

You bet. Thank you, Doug.

Operator

We'll take our next question from Jason Gabelman with Cowen.

Q - Jason Gabelman {BIO 18730121 <GO>}

Hey, thanks for taking my questions. First I just wanted to clarify on the LNG maintenance. What is the cadence of maintenance or cross your ass at going forward and future years you've obviously had a period of very concentrated maintenance event is it one train a year? Or how do we think about that on a normalized basis And then my follow-up is just given the changing energy dynamics.

I wonder, if your discussions with governments, both domestically and abroad. If the discussions and the sentiment has changed at all, in terms of the ability to invest in places and if that's in any way, starting to reshape the way you look at your investment opportunities.

A - Unidentified Speaker

Okay, energy turnarounds were typically on a four year turnaround cycle. So, what that means is that the Gorgon with three trains, you'll have three out of four years, you'll have one turnaround and Wheatstone with two trains, two out of every four years, you'll see turnaround.

And at Angola LNG, we're going to single train, one out of every four years, you'll see a turnaround. on government discussions, it's just early Jason to say I don't think anybody is really fully adapted and or no one knows what the environment is likely to look like a year from now two years, from now five years from now, so I think that's one that is a work in progress.

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Adam Lawlis {BIO 17657398 <GO>}

Thank you, Amanda. Good morning and welcome to Diamondback Energy's First Quarter 2022 Conference Call. During our call today, we will reference an updated investor presentation, which can be found on Diamondback's website. Representing Diamondback today are Travis Stice, Chairman and CEO; Kaes Van't Hof, President and CFO; and Danny Wesson, COO.

During this conference call, the participants may make certain forward-looking statements relating to the company's financial condition, results of operations, plans and objectives, future performance and businesses. We caution you that actual results could differ materially from those that are indicated in these forward-looking statements due to a variety of factors.

Information concerning these factors can be found in the company's filings with the SEC. In addition, we will make reference to certain non-GAAP measures, the reconciliations with the appropriate GAAP measures can be found in our earnings release issued yesterday afternoon.

I'll now turn the call over to Travis Stice.

Travis D. Stice {BIO 16670330 <GO>}

Thank you, Adam. And welcome to Diamondback's first quarter earnings call. In February, Russia launched an unprovoked invasion of the sovereign nation of Ukraine. We at Diamondback strongly condemn Russia's actions in aggression. Our thoughts and prayers are with the millions of men, women, and children affected by this unjust war and while we desire a quick and peaceful resolution to this conflict we recognize that this war could go on for quite some time. We will continue to support the innocent victims of Ukraine just as we did earlier this year. We announced a $10 million commitment to various non-profit entities providing vital humanitarian support.

Russia's actions have caused the global energy markets in the turmoil. As the world and especially our allies in the European Union grappled with the potential loss of a major source of their energy supply and rethink their respective energy policies. This war has magnified the interconnectivity of the global energy equation and the impact post-Cold War globalization has had on all supply chains. It is also reminded to world of the importance of the traditional oil and gas to the global economy. As we are witnessing the impact, high energy costs can have on the consumer and the economy in real-time.

As the warm thing and the resulting governmental sanctions continue, Russia's oil production is expected to be impacted by shut-ins, natural decline, storage limitations, and lower exports, creating a global shortage of oil. Over the next few years, we will need to make up for this loss production and we believe that the U.S. oil and gas industry is best suited to provide the low-cost, environmentally friendly barrels needed to ensure global energy supply.

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And however, today we are operating in a constrained environment with inflationary pressures continuing to increase across all facets of our business. Also, labor and materials shortages are now present across the supply chain. We at Diamondback are fortunate to have secured the necessary equipment, personnel, and materials to run our 2022 capital program.

But increase in activity now would result in capital efficiency degradation. It will not meaningfully contribute to fixing the global supply and demand imbalance in the oil market today. Therefore Diamondback remains committed to maintaining our current oil production levels of approximately 220,000 net barrels of oil per day.

While we believe that efficiently oil production base is achievable over the long term we do not feel that today is the appropriate time to begin spending dollars, that would not equate to traditional barrels into multiple quarters from now. We continue to focus on capital efficiency and strive to operate with the highest level of environmental and social responsibility.

At Diamondback we plan to invest approximately $60 million to produce our direct emissions and lower our carbon intensity, including ending routine flaring by 2025. This figure does not include the hundreds of millions of dollars we spent to electrify our production fields and to build pipelines to ensure we produce and transport fluid through with the lowest emissions intensity possible.

These investments are not only good for the environment but also smart economic decisions that we expect to lower our operating costs. By investing in infrastructure in our high activity levels, we now have the ability to run a dedicated electric fleet for the foreseeable future. We've partnered with Halliburton to secure our first electric frac fleet, which will run Midland County acreage of power generated from the central location and delivered the existing lines, reducing our Scope 1 emissions profile.

This partnership will also lower our cost per foot, primarily due to fuel savings, decrease our footprint on location, and increase our operational efficiency as a result of lower maintenance and non-productive time. We expect this fleet to be operational in the fourth quarter. In 2021 we also announced initiatives to reduce our Scope 1 greenhouse gas emissions for GHG intensity by at least 50% and reduce methane intensity by at least 70% from 2019 levels by 2024.

In 2021 alone, we reduced our Scope 1 GHG and methane intensity by 15% and 21% respectively from the 2020 levels. Lastly, we launched our Net Zero Now strategy under which as of January 1st of 2021, every hydrocarbon produced by Diamondback is anticipated to have zero net Scope 1 GHG emissions as we offset these emissions with certified carbon credits.

Moving to first quarter performance, our production of 223,000 barrels of oil exceeded the high end of our guidance range, creating $1.4 billion in operating cash flow. We were able to keep our capital costs in check spending $437 million in CapEx during the quarter nearly hitting the low end of our guidance range of $435 million to $475 million.

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acquisitions and we're excited about blocking up our reward position with the acquisitions we completed in January. This bolt-on added approximately 6,000 net acres in Ward County and gave us an additional 60 long lateral locations with an 85% net revenue interest in a high rate of return area.

In fact, we've already begun drilling the position. But do not expect our production until late this year. As we look to our outlook for the rest of 2022 our simple plan has not changed. Maintained oil production of approximately 220,000 barrels of oil per day, by spending between $1.75 billion and $1.9 billion. At the current strip pricing, this production and capital spend equates to approximately $4.5 billion of free cash flow which per our returns framework gives us a minimum of $2.25 billion of cashback to our investors.

We're off to a good start for the year mitigating inflationary pressures while justifying our social-environmental license to operate. We believe our capital discipline and returns profile is still best, near-term path to equity value creation while our operational execution provides differentiated returns to our shareholders.

With these comments now complete operator, please open the line for questions.

Questions And Answers

Operator

(Operator Instructions)

Our first question comes from the line of Neal Dingman from Truist Securities. Your line is now open.

Q - Neal Dingmann {BIO 6416564 <GO>}

Good morning -- Travis, first question, the obvious just on shareholder return it out specifically well, I guess, maybe talk a little bit different. I'm just wonder -- what levers would you all think about pulling if oil were to go potentially in a super spike scenario where Russia oil would decouple or if oil completely goes the other way and holds assuming something happens to Putin. So I'm really just trying to get a sense of what sort of quarterly changes you would or would not make if this were to happen down the line?

A - Travis D. Stice {BIO 16670330 <GO>}

Well, so as in a quarterly perspective from an operational perspective, we're pretty set on this year's plan that we have the ability obviously to ratchet things down. But as I tried to lay out in my prepared remarks ratcheting things up right now is not really the right answer, if you're asking questions specific with our buybacks, Neal, we're going to stay disciplined in our approach to buying our stock back.

When we look at mid-teens returns or mid-cycle pricing that's really not changing. I think what matters most Neal is that we're returning cash to shareholders and were given our

shareholders a flexibility to do with the cash as they see fit. That's kind of how you view the world right now, Neal.

Q - Neal Dingmann {BIO 6416564 <GO>}

No, I like that flexibility, I think makes a lot of sense as I think investors do that. My second question just on your capital guidance specifically looking at at the $150 million of inflation $125 million debt benefit then the $60 million midstream incremental moves that you've talked about since '21, really just wondering is there a potential for each of these to move further this year and then does this sort of '22 spend sets you up for a stable '23 production.

A - Travis D. Stice {BIO 16670330 <GO>}

Yeah, Neal, I don't see any changes, I mean I think we're seeing inflationary pressures across the value chain. Fortunately, we take a lot of that into our guidance for the year and fortunately we had a strong Q1 which if you annualize Q1 would be towards the low end of the range.

So it gives us more flexibility in the back half of the year and second to that, I think we're debating internally, what was 2023 and beyond look like is not ready to give an answer to that today, but it doesn't mean that the plan is zero growth forever. I think we have the flexibility to ramp up a little bit if we needed to about the decision will come from based summer for 2023 and beyond.

Q - Neal Dingmann {BIO 6416564 <GO>}

Great to hear thanks guys. Great results.

A - Travis D. Stice {BIO 16670330 <GO>}

Thanks Neal.

Operator

Our next question comes from the line of Arun Jayaram from JP Morgan. Your line is now open.

A - Travis D. Stice {BIO 16670330 <GO>}

Arun you are on mute.

Q - Arun Jayaram {BIO 5817622 <GO>}

I'm sorry, I didn't hear my name. Sorry about that. Yeah, yeah. Good morning, gents. Travis. I wanted to get your thoughts. Obviously looking at the near-term performance of the stock, it clearly lagged your oil data as well as in our sense of execution, which has been good in the field.

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I was wondering if you and, or Kaes could talk a little bit about the bear thesis on the stock. As you know, there is a number of properties on the market in the Permian and the market appears to be concerned about Diamondback executing perhaps a pro-cyclical, the type of M&A deal in this type of environment as the buyback.

Pace has waned a bit. So I was wondering if you could maybe talk about that and just your broader thoughts on an M&A in this kind of $100 plus oil environment.

A - Travis D. Stice {BIO 16670330 <GO>}

Arun, if I can control the price of stock it would be a lot higher than it is today. Granted. But I can't. But what we can control is how we allocate capital. How we execute in the field. How we can generate more cash for barrels than anyone else. Those are the things that we really can't control.

It is we do hear a lot about this narrative that Diamondback is a serial acquirer and let me just put it simply, large-scale M&A today is quite frankly off the table. We've got nothing on our deal sheet that's considered more than a tuck-in like the one that was just announced in my prepared remarks.

This remains a seller's market and we're not going to underwrite M&A at today's oil prices just like we're not going to underwrite repurchasing stocks, unlike today's oil prices so I hope that's clear in the -- in both of those two points that I made, Arun.

Q - Arun Jayaram {BIO 5817622 <GO>}

Great, great that it sounds like large-scale M&A is off the table today if I based on those comments.

A - Travis D. Stice {BIO 16670330 <GO>}

Yes. I'll reiterate that point, large scale M&A are off the table. I'll reiterate that point.

Q - Arun Jayaram {BIO 5817622 <GO>}

I think, that's clear. The second point I wanted to make is, just looking at the cash flow statement for calendar 2022, are up the model, which is a bit below the strip call to $6.2 billion, $6.4 billion of CFO, a little under $1.9 billion of CapEx. If we go through all of the uses of cash, including nearly $800 million of debt reduction year-to-date, we still get over $1.2 billion of cash build this year.

So I was wondering if you could talk about some of the priorities for this excess cash, I think you highlighted maybe a debt target for FANG standalone at $3.5 billion. But I was wondering maybe you could talk about uses of cash. If the site commodity price environment continues.

A - Travis D. Stice {BIO 16670330 <GO>}

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Yeah, Arun. Good question now and I'll say $3.5 billion is a hard and fast number before we ramp up shareholder returns. But certainly would like to take advantage of this market by taking out our 2026 notes and therefore not having any near-term maturities before 2029 which opens up the door for accelerated cash returns.

I think that's going to happen sooner rather than later. Just generally, we do want to keep a cash balance but we're not going to sit on the large cash balance and we think you know that it is the right answer. So we're not going to sit on it and therefore we're going to return it. This is a active discussion we have the Board every quarter-on-cash returns and I think generally we're going to be supportive of more cash returns as the balance sheet is put for this share.

Q - Arun Jayaram {BIO 5817622 <GO>}

Great, thanks a lot.

Operator

Our next question is from the line of Nitin Kumar, Wells Fargo. Your line is now open.

Q - Nitin Kumar {BIO 16212133 <GO>}

Hi, good morning gentlemen and thanks for taking my questions. Let's start with Permian takeaway on the gas side has been a topic of discussion over the last three months or so. Just wanted to see what you guys are seeing on the ground and maybe if you can talk a little bit about your flow assurance into '23 and '24?

A - Daniel N. Wesson {BIO 20140317 <GO>}

Yeah, I think I think people are on the midstream and the upstream side are coming together to solve this problem. And you've seen a couple of announcements on expansions of a couple of existing in the last couple of weeks. We still think there needs to be a large price built -- new build side which hopefully happens here in the next month or two from the announcement perspective.

And generally going back to what we said last quarter, we have, we don't have taken kind rights for all of our, all of our gas, but we do have flow assurance for all of our gas so we are exposed to Waha we've hedged much of our exposure in 2023. I think that's the tight spot and the gas is going to move, it's just a matter of price.

And I think there is a lot of constraints on Permian growth right now as we've seen anecdotes from others on trying to ramp activity into this constrained environment. So generally I think the gassing gets also I think both sides are as incentivized ever to build the parts and that should clear the way for Permian growth in the out years.

Q - Nitin Kumar {BIO 16212133 <GO>}

Great, thanks for that color. As my follow-up inflation did not feature as prominently in your release as it did for others, but you did talk about constraints, Kaes you also

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Q - David Deckelbaum {BIO 16187009 <GO>}

Thanks, Travis and Kaes, Danny. Thanks for squeezing me in.

A - Travis D. Stice {BIO 16670330 <GO>}

Of course David.

Q - David Deckelbaum {BIO 16187009 <GO>}

Travi, I wanted just follow up on your comments that you made around capital efficiency degradation for deploying capital in today's environment, I guess how do you think about those conditions resulting in improved capital efficiency over time.

I guess it sounds like the variables are that there really just isn't very much availability of equipment, significant delays. I know that you guys are benefiting from having pre-purchased a lot of some of the raw materials for this year's program. But I guess are we to think about when you talk specifically around capital efficiency.

If you stood up a rig today that the free cash payback period on that would be significantly longer than the year.

A - Travis D. Stice {BIO 16670330 <GO>}

Yeah, I think there are two points. Your first was correct that capital efficiency those imply that the payout for that investment is much -- there's much longer, notwithstanding the fact to production from that we way we develop these assets with multi-well pads is quarters away.

The second thing is that in the hyperinflationary environment like we're in the Permian right now standing of the reviews and your example really means that we're in most instances, we're going to be taken that rig away from somebody else, so, and that applies to really all services.

And so, if you're looking to increase the total barrels production how the Permian, you just really be reallocating. So it's not really helping the global supply-demand equation because that's really helped apply to services are at here today.

A - Kaes Van't Hof

Yeah, with more macro comment that the service market is a zero-sum game right now and I'll stepping on the accelerator would result in someone else not and so we won't maintain that capital efficiency that we have in and the trust that we were in with investors that this is the plan.

A - Travis D. Stice {BIO 16670330 <GO>}

We've seen in the past in this hyper inflationary environments that that supply chains ultimately normalize. But it takes time for that normalization to occur, which is measured in

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quarters if not years for it to normalize and when it does, then you start to have a greater opportunity to grow without degrading your capital efficiency.

Q - David Deckelbaum {BIO 16187009 <GO>}

I appreciate the responses Travis. The last one from me is just on the Ward County acquisition, it sounds like you guys are drilling some of those locations there, I guess when you're making a when you're making an acquisition right now I know you said large scale is off the table, but are these smaller deal, should we think about these locations moving to the front of your program?

A - Travis D. Stice {BIO 16670330 <GO>}

Yeah. These were some pretty higher returning locations mainly because acreage has an 84% NRIs, so next to 90% NRIs about a third of the deal value and so definitely completely undeveloped unit in the Delaware Basin very competitive with Midland Basin units. So I say this deal is the exception versus the norm. You know the degree about six months ago. But if other opportunities like that come about, I think it's a good use of cash long as we're not impacting our cash return program.

Q - Scott Hanold {BIO 6237956 <GO>}

Thanks guys. That's a look going forward.

A - Travis D. Stice {BIO 16670330 <GO>}

Thank you, David.

Operator

Our next question is from Derrick Whitfield from Stifel. Your line is now open.

Q - Derrick Whitfield {BIO 17309670 <GO>}

Good morning all and congrats on your quarter and update.

A - Travis D. Stice {BIO 16670330 <GO>}

Thanks, Derrick.

Q - Derrick Whitfield {BIO 17309670 <GO>}

Following up on David's first question, could you broadly outline the macro and investor conditions that would supported a decision to pursue growth over 5% per annum.

A - Travis D. Stice {BIO 16670330 <GO>}

I think what you are asking us to do start forecast in 2023 growth rates and I'm not -- that we're not really ready to talk about 2023. I think of there if you look at the macro uncertainties that are still out there. Let me try to enumerate some of those you still got Iranian barrels.

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Well, they're going to find a way in the market you got Venezuela, you've got Libya, you've got continue -- a little bit of surplus capacity in the OPEC plus, those are all value that can come out of the equation, over the supply-demand equation. You've also got to continued demand impacts of the projects particularly in the Asian markets right now.

And then lastly, to say bluntly, the administration's comments are certainly causing a lot of uncertainty in the market both in the terms of regulatory taxation, legislation and negative rhetoric towards our industry and that creates uncertainty in our owner's, our shareholder's minds about what with the future of this industry really is.

And so I think this represents on that front a pretty unique time to have a sober assessment of what a energy policy really needs to look like for the United States. One that recognizes all forms of energy, while at the same time have an aspirational goals about a more sustainable future.

Q - Derrick Whitfield {BIO 17309670 <GO>}

Thanks, Travis. I certainly I appreciate those comments and understand those. As my second question, I wanted to follow up on gas egress and more specifically your view on how you'd like to position Diamondback in the value chain for LNG offtake with the understanding that you are an oil company at the core have you evaluated or would you consider direct offtake contracts with European utilities to better position Diamondback for higher realizations?

A - Travis D. Stice {BIO 16670330 <GO>}

I think we consider Derrick, just want to have control over enough molecules to anything very meaningful back to taken kind rights every cell we exchanged the custody of the molecule at the wellhead, sort of $200 million a day. We have on the Whistler pipeline are going down to JD in South Texas.

So really don't have control of a lot of gas as the company has grown through acquisitions, a lot of times the gas team dedicated already with no taking kind rights for that operator.

Q - Derrick Whitfield {BIO 17309670 <GO>}

Great update. Thanks again for your time guys.

A - Travis D. Stice {BIO 16670330 <GO>}

Thanks, Derrik.

A - Kaes Van't Hof

Thanks, Derrik.

Operator

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Our next question is from the line of Scott Gruber with Citigroup. Your line is now open.

Q - Scott Gruber {BIO 6761975 <GO>}

Yes, good morning. I guess just within the conversation here this morning. You guys mentioned e-frac fleets coming in during 4Q and how that will help efficiency and obviously that must've been various drilling optimization software as it has been developed to help trim those drill times.

Yeah. Is there an ability for Diamondback to grow volumes modestly without adding an additional rig or two and more fracta or was that just not possible?

A - Kaes Van't Hof

I think its certainly possible Scott. And certainly, as part of our assessment of where we're headed and also ties into this mantra of capital-efficient growth or capital efficient maintenance and you know that it's amazing what the, what the organization has done in terms of efficiencies three some frac fleets have doubled our efficiency on the frac side on the drilling side like you mentioned the clear fluid strong system as well as moving onto electrification as this cost and cycle time.

So I think it's possible and we continue to see improvements throughout this year and certainly going into our calculus for what is the next few years look like.

A - Travis D. Stice {BIO 16670330 <GO>}

And you know, Scott when, you think about the improvements that Kaes just talked about that are operationally and execution focus those made irrespective of commodity price or service prompt and what's exciting about those and what I'm so proud of organization about it those are permanent.

Those are permanent savings that go forward and it's when you start doing the relative game to Diamondback versus other's performance that's what creates the spread, and this is not just a recent phenomenon. In our organization, the stock and trade has been these types of incremental improvements year-over-year.

Regardless of the economic commodity price backdrop and I think it's fair that we're going to continue to do that, it gets harder in times like today but it doesn't mean that we still can't find differential ways to do more with less. And the second point is that as we fully embrace the more than -- more than Midland Basin with the assets that we acquired we got on QEP coming on the coming of the production mix back half of this year and fully in the 2023.

Those wells are so you will see a natural uptick in our capital efficiency because we, those wells deliver more per dollar spent.

Q - Scott Gruber {BIO 6761975 <GO>}

Got you. Yeah, I guess that was the kind of hard my question is there enough kind of incremental gain on the kind of process efficiency coupled with the Midland County program hitting its full stride that is there enough combination there that you could actually achieve, call it 5% growth without adding an additional guidance.

A - Kaes Van't Hof

We will say still early. So we I think we're really focused on -- I'll give you the rest of this year in a very tight inflationary environment.

Q - Scott Gruber {BIO 6761975 <GO>}

Okay. Okay, thank you.

A - Kaes Van't Hof

Thanks Scott.

Operator

Our next question is from the line of Jeoffrey Lambujon from Tudor Pickering, your line is now open.

Q - Jeoffrey Lambujon {BIO 17871240 <GO>}

Good morning everyone and thanks for taking my questions. My first one is just a follow-up on some of the cost commentary from earlier if you wouldn't mind sharing some additional insight that you've got just given your history in the basin. But with your outlook for well cost per foot for the year in particular, staying consistent with the initial guide even as other operators are talking up over quarter to quarter changes with uncertainty beyond that as you go through the year.

I just wanted to ask about what you are doing in the field to mitigate higher costs you might be experiencing or just plans to for activity in the field to mitigate expected cost in the future. Just in terms of flexibility around few contract with for services, while still maintaining and upholding the low-cost operations at Diamondback is known for.

A - Kaes Van't Hof

Yeah, good question, Jeff. I mean we've obviously them some inflation into these costs and one end of the year at a lower well costs and went into 2021 even in the face of our inflationary environment last year, but generally, there are there service provider efficient price and sometimes we decide not to keep working with those particular service providers.

So I think our ability to control costs, is because we control a lot of the process with our business partners on the service side. We recognize the need to make margin, but, but if there is another provider that can provide the same service for less cost will go that route and we've done that a few times this year.

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So that's, that's helped us control things a little bit.

A - Travis D. Stice {BIO 16670330 <GO>}

And Jeff, those were true strategic comments that Kaes just made. But we look tactically what we continue to see is our operations organization getting to TD faster on a quarterly basis and that's kind of goes back to the comments I made earlier, this is what we do. So the getting to TD faster translates to cost savings that become permanent.

Also completing more lateral feet per day as an efficiency gain this year is another one of those tactical things that we're doing, that's helping us hold the line on an increase in cost backdrop. So in just to emphasize, we always get the question to ask, what is it that makes the secret sauce of Diamondback in our low-cost operations that you just pointed out,

And it's really not one or two things, it's really consistent laser-focused on every single decision that we make that spends dollars and the cumulative effect of that laser-like focus allows down about just not on a quarterly basis, but now almost for a 10-year time period maintain the lowest cost operations in both execution early in the Permian.

Q - Jeoffrey Lambujon {BIO 17871240 <GO>}

Perfect, thanks for that. I appreciate the detail on the reminders. My second one is just on the balance sheet really just around what you see is what's left on the opportunity for further strengthening from here. I know you've talked about and flagged the 2026 is in the past and spoke to debt targets that can also be flexible, but it would seem like you are within striking distance here of an optimal balance sheet position for the medium to long term. So just wanted to get your latest thoughts on that given the progress you've made so far, especially recently and I apologize if I missed this earlier.

A - Kaes Van't Hof

No, I think we feel fine with everything we have due 2029 or later sitting out there and we take care 2026 as it should be in a matter of months, not years. We'll be in a position to have discussions about increasing shareholder returns. Beyond what we already doing.

Q - Jeoffrey Lambujon {BIO 17871240 <GO>}

Perfect thank you.

Operator

Our next question is from Nicholas Pope from Seaport Research. Your line is open.

Q - Nicholas Pope {BIO 17485195 <GO>}

Good morning, everyone.

A - Kaes Van't Hof

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Hey, Nick.

Q - Nicholas Pope {BIO 17485195 <GO>}

First, I wanted to commend you guys on that ESG kind of real-time data dealer providing because I think it's probably one of the best in the sector but you provide the data so I've got a question about a little bit. You kind of talk about kind of gross gas flared and I saw in 1Q, it kind of creeped up from kind of where it was in fourth quarter where it was in first quarter of last year is kind of a percent of total like gross gas production.

Just curious like, is it, what drives that is there some seasonality in that, is it, I mean is it limited capacity to move gas. I mean I just trying to understand a little bit about kind of the movement in that in that metric, which is a big part of kind of the CO2 emissions. I think if you have the report.

A - Travis D. Stice {BIO 16670330 <GO>}

Sure, Nick. Two things. The first comment on disclosure, I appreciate you saying that our Board has mandated us to not only be best-in-class on actual performance but also best in class in disclosure and there's a lot of our organization that is focused on delivering these results and we're proud to report and I think if those haven't had a chance at all on the call to look at the ES&G detail in our investor deck, which is up on our website. I strongly encourage you to do that. The second part of your question, Nick, was gross, gas and that's -- reason reported that because way that you can back calculate and verify our numbers.

But they had to do with the acquired volumes there.

A - Kaes Van't Hof

No, it's all due to planned turnarounds that I mean you put out a Slides us that explains that 75% of our flaring is due to downstream issues and we're trying to portion incentivize our business partners on the midstream side to do better in terms of flaring sometimes through contracts where we pay them more per Mcf if they flow less than 1%.

But really timing-wise Q1 lot of turnarounds from some of our business partners on the midstream side, there is some seasonality to it, but that's why we push them for interconnectivity among their peers so that if their plant goes down, they can send it to another plant to appear and we still pay them.

So part of the whole, the whole value chain is we need our friends on the G&P side to work with us here. We view that as a win-win or lose-lose. So we're not trying to position ourselves as a win versus lose our JP side. We know that emissions from the product we produce need to be eliminated and minimized as quickly as we can.

And that's the reason that we spend time in conversations like this talking about our G&P business partners as well as including some slides in ES&G detailed part of the deck that

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highlights what Diamondback was responsible for and what our midstream guys who are responsible for both planned and unplanned outages.

Q - Nicholas Pope {BIO 17485195 <GO>}

Got it. That's actually very helpful. I appreciate it and kind of further onto the kind of the other components of this you kind of talk about the electrification of compression of parts of the frac fleets. Is that something that is that, is that you're going to be showing up as part of the LOE, kind of improvements that you're, that you're working on?

Is that where it shows up or is it primarily going to be something that is reflected in the ESG metrics, when you think about that move towards the electrification of a lot of asset?

A - Travis D. Stice {BIO 16670330 <GO>}

Electrification in the field help LOE so electrifying all of our fields is not only environmentally friendly but also cost-friendly, getting rid of infield power generation, but on the frac side and the drilling rig side and moving rigs and frac fleets to electrification will help lower costs on the capital side, but also the lower our combustion percentage of Scope 1 emissions.

Q - Nicholas Pope {BIO 17485195 <GO>}

Got it. That's all I really needed. I appreciate the time this morning. Thank you.

A - Travis D. Stice {BIO 16670330 <GO>}

Thanks, Nick.

Operator

Our next question is from Doug Leggate from Bank of America. Your line is open.

Q - Doug Leggate {BIO 1842815 <GO>}

Hey, guys. Yeah, I guess prices increased are directly correlated with the commentary around your very good dividend. Thanks for getting me on this morning. Good to talk you guys.

A - Travis D. Stice {BIO 16670330 <GO>}

Thanks, Doug.

Q - Doug Leggate {BIO 1842815 <GO>}

I got to get this right upfront, look as you -- how can you say you think your stock is undervalued you're not affected by it variable dividends take cash off the balance sheet.

They don't get capitalized in the business, which is a finite inventory. How do you expect the market to hear you for a variable dividend, it is to me in this business, it doesn't make

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a lot of sense. I just love your perspective.

A - Travis D. Stice {BIO 16670330 <GO>}

Yeah, Doug. Listen, we've to outlook outline exactly our thoughts and rationale behind all of those and is my comments on the stock price is really a function of what I can control and not control and I can't control the actual market what the stock, it was actually stock prices. We try to be very disciplined and we are very disciplined in the calculus, we used to buy anything, whether it's our stock, whether it's acquisitions or whether it's making drill well decisions. In our fract the mid-cycle oil price at $60 a barrel. I think that could change as we continue to accumulate free cash mid-cycle oil price change, but our ability to buy them shares back will change.

But we made a commitment to distribute at least 50% of our free cash flow and other than on the balance sheet, which we said we're not going to do, we're going to honor that commitment in return at least 50%.

Q - Doug Leggate {BIO 1842815 <GO>}

I understand completely the rationale is an intellectual be perhaps but equity volatility correlates with balance sheet structure so EOG Pioneer some of your other peers are choosing to of net debt zero. So we will carry on the debate. I want to ask about the -- a more specific question to the current commodity environment and how is it impacting your cash flow outlook, specifically cash taxes, so this might be for Kaes. We've got a much higher gas price obviously, we've got a backwarded curve obviously, I assume that's accelerating inflection in when you get to a full cash tax position.

So if you can just give us an idea what, what you see happening on that regard and I'll leave it there. Thanks.

A - Kaes Van't Hof

Yeah, good question, Doug, we raised our cash tax percentage this quarter because we weren't running $100 low in our initial guidance, in February there's still some protection this year we do have about $1 billion of NOLs that will protect us next year, so we won't be full cash taxpayer next year 2023.

Somewhere in wells pushout can use this year's revenues of next year and then commodity prices stay where they are full cash taxpayer by 2024.

Q - Doug Leggate {BIO 1842815 <GO>}

So just to be clear that even with the forward curve case you'll still get through the end of next year.

A - Kaes Van't Hof

Yeah, I mean partially, right? I think our protection will decrease next year, but there will be some protection and then forecast tax payer 2024.

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Q - Doug Leggate {BIO 1842815 <GO>}

Got it. Thanks so much guys.

A - Travis D. Stice {BIO 16670330 <GO>}

Thanks, Doug.

A - Kaes Van't Hof

Thanks, Doug.

Operator

Our next question is from Leo Mariani from KeyBanc. Your line is open.

Q - Leo Mariani {BIO 20899117 <GO>}

Hey guys, just wanted to follow up a little bit on some of the inflation commentary here, I just wanted to kind of clarify sort of what I heard it sounds like you'll have all your equipment here for your 2022 program, but just wanted to get a sense if generally that the prices for the big-ticket items on the service side are locked in for 2022 or perhaps could you see, I'll just call it some inflationary risk in the CapEx you maybe in the second half.

And then as we look to 2023, is that where you think that inflation could be maybe a larger problem if commodity prices are well bid later this year.

A - Kaes Van't Hof

Yeah, I mean, it really depends, right? I mean it depends what happens in the situation with Russia and Ukraine as talk -- as it relates to pipe costs, right? We thought that cost we are going to come down in the back half of the year, it doesn't look like that's going to happen this year. It might happen next year, I mean, I think there's a little push-pull deal with this business tends to sort out supply chain issues over time and as commodity prices stay stronger for longer, some of the tightness will get sorted out. So that's certainly enough, I'm not going to make a prediction that 2023 inflation is going to be as much as 2022. But we are certainly seeing inflationary pressures across all the big-ticket items right now and some of that pricing for the big ticket items is incentivizing new bills which tends to lower prices.

So I think there's a little bit of push-pull still on 2023.

A - Travis D. Stice {BIO 16670330 <GO>}

Look, we won't be affected by inflation, Leo, no two ways about it, but the best that we've always made here internally is that we will be affected the least of anyone else because of our efficient operations and you see it in the first quarter of this year, we were all affected by to say inflation in the low end of our CapEx guide for the quarter.

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conduct a question-and-answer session. We expect to conclude the call by about 9:30 AM Central Time. Let me encourage you to read our cautionary statement, which is on Slide 2. Please note, we also provided supplemental information at the end of our earnings slides, which are posted on the website.

Now, I'll turn the call over to Darren Woods.

Darren W. Woods {BIO 17692013 <GO>}

Good morning and thanks for joining us today. As we laid out at our most recent Investor Day, our goal is to sustainably grow shareholder value through the execution of our strategic priorities as seen on this slide. As we think about recent events, our job has never been clear or more important, the need to meet society's evolving needs reliably and affordably is what consumers and businesses across the globe are demanding and what we delivered this quarter.

First, we continue to build our competitively advantaged production portfolio, bringing new barrels to market today, driven in part by the high value investments, we continue to progress through the pandemic driven downturn in prices. A prime example of the benefits of our continued investments is Guyana. This quarter saw the successful start of Liza Phase 2. Production is ramping-up ahead of schedule and is expected to reach capacity of 220,000 barrels of oil per day by the third quarter of this year. Combined with Liza Phase 1, we will bring our total production capacity in Guyana to more than 340,000 barrels per day.

Our third project Payara is running ahead of schedule with start-up now likely by year-end 2023. Yellowtail, the fourth and largest project to date on the Stabroek Block received government approval of our development plan and is on schedule to start-up in 2025. Further, adding to our portfolio, we have made five new discoveries this year and have increased the estimated recoverable resources to nearly $11 billion oil equivalent barrels.

Turning to US, we continue to grow production in the Permian Basin. In March, we produced about 560,000 oil equivalent barrels per day, on pace to deliver a 25% increase versus 2021. Looking forward, we're also growing our globally diverse portfolio of low cost, capital efficient LNG developments. Mozambique, the 3.4 million tonne per year Coral South Floating LNG production vessel is being commissioned after arriving on site in January.

Coral South is on budget with the first LNG cargo expected in the fourth quarter. In addition to investing in high value opportunities in our existing businesses, we're also advancing opportunities in our low carbon solutions business. During the quarter, we announced plans to build a large scale hydrogen plant in Baytown, Texas. We anticipate the facility will have the capacity to produce up to 1 billion cubic feet of hydrogen per day, combined with carbon capture, transport and storage of approximately 10 million metric tonnes of CO_2 per year.

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This facility will be a foundational investment in the development of a Houston CCS hub, which will have the potential to eliminate 100 million metric tonnes of CO2 per year and represents a meaningful step forward in advancing accretive low carbon solutions. We also reached a final investment decision to expand, another important carbon capture and storage project at our helium plant in Wyoming. In addition, we received the top certification over management of methane emissions at are Poker Lake development in the Permian. We're the first company to achieve this certification for natural gas production associated with oil.

At the end of the first quarter, we implemented a series of organizational changes to further leverage the scale and integration of the corporation and improve the effectiveness of our operations and better serve our customers. We combined our downstream and chemical operations into a single product solutions business. This new integrated business will be focused on developing high-value products, improving portfolio value and leading and sustainability. As a result of these changes, our company is now organized along three primary businesses, Upstream, Product Solutions, and Low Carbon Solutions. These three businesses are supported by corporate wide organizations including projects, technology, engineering, operations, safety and sustainability.

Before I cover our financial results, I want to provide our perspective on the market environment. In the first quarter, a tight supply-demand environment primarily due to low investment levels during the pandemic, contributed to rapid increases in prices for crude, natural gas and refined products. Clearly the events in Ukraine have added uncertainty to what was already a tight supply outlook. Rent rose by about $22 per barrel or 27% versus the fourth quarter. Today, natural gas prices remain well above the 10-year historical ranges, driven by tight global market conditions, and ongoing European supply concerns.

The same tight supply-demand factors have also pushed refining margins near the top of the range. Chemical margins in Asia have fallen sharply with product prices lagging the steep increases in feed and energy cost. In our case, the US ethane feed advantage provided a significant positive offset versus this global view. With that market environment as the backdrop, let me turn to our first quarter financials. Earnings totaled $8.8 billion, excluding an identified item, the after tax charge associated with Sahkalin-1. As you know, we are discontinuing our Sahkalin-1 operations in Russia, which represented less than 2% of our total production last year about 65,000 oil barrels per day and about 1% of our corporate operating earnings.

As the operator, our priority continues to be the health and safety of our people and -the protection of the environment. Of course, we remain in full compliance with all US sanctions and are closely coordinating with the US administration. Turning to structural savings. We continue to drive further efficiencies, now delivering more than $5 billion of annual savings versus 2019. CapEx totaled $4.9 billion for the quarter, in-line with our full year guidance of $21 billion to $24 billion. Cash flow from operations was $14.8 billion, maintaining our strong balance sheet.

Our debt to capital ratio remains near the low-end of our 20%, 25% target range, while our net debt to capital ratio dropped to about 17%. We returned $5.8 billion to shareholders, of which about two-third was in the form of dividends and the remainder

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share repurchases, consistent with our previous program. We said during our corporate plan update in December that we expect to repurchase $10 billion of our shares. This morning, we announced increase to the program up to $30 billion in total through 2023. This move reflects the confidence we have in our strategy, performance we are seeing across our businesses and the strength of our balance sheet.

Before I leave you with a few key takeaways, let me share one other decision we made this month with respect to our workforce. Continuing to invest in our people and maintaining a strong culture, our core strategic priorities, an essential to achieving our long-term objectives. As part of that effort, we are tripling the number of employees eligible for stock grants, by bringing in high performing employees at earlier stages of their careers. Our goal is to increase our people's ownership in the company and importantly in our financial and operating results.

Secondly, in June, we will implement a 3% off cycle compensation adjustments in the US to maintain competitiveness. Our compensation and benefits programs are key element of our total value proposition, enabled us to continue to attract and retain the best talent in the industry. Let me leave you with few key takeaways. We had a strong first quarter and I'm proud of the organization's progress. The impact of weather on the Upstream volumes and derivatives and timing impacts in the Downstream, obscurity strong underlying performance. We anticipate in absence of these impacts and strong refining margins positioned us very well in the second quarter.

We are making outstanding progress on our high-value growth developments in Guyana, the Permian, and LNG. Our new Corpus Christi Chemical Complex is up and running ahead of schedule and generated positive earnings and cash flow in its first quarter of operations. We have strengthened the balance sheet and are creating value for shareholders through an attractive dividend and increased share repurchases. We are advancing hydrogen, biofuels and other low carbon solutions consistent with our intention to lead in the energy transition, leveraging our competitive advantages of scale, integration, and technology.

Finally, we are evolving our organization from a holding company to an operating company to better serve our customers' evolving needs and grow long-term shareholder value. Before we take your questions, I want to acknowledge the very real impact the high-prices are having on families all around the world. You may recall that we anticipated this in 2020 with the industry investment levels well below those required to offset depletion. That's why we worked so hard to preserve our capital expenditures during the depths of the pandemic to ensure that additional production was available to meet the eventual recovery in demand.

Today, that long-term focus is paying off with growing production at the industry advantage supply. We are continuing to focus on the fundamentals through our ongoing investment and advantaged projects in low emission initiatives to ensure that we can continue to meet the critical needs of people all around the world, reliably and affordably well into the future.

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In terms of just how to think about the pace of the program, it's up to $30 billion through the end of 2023. We obviously got $2.1 billion done in this quarter, you should think about us looking to get up to a ratable pace and that roughly, we'd be looking to get $15 billion done in a year, again looking to sustain the program kind of more consistently over this two-year period. So that's how I would think about kind of roughly where we see our cash balance and just looking to maintain a lot of flexibility in what's a pretty uncertain environment.

And we did learn some real lessons during the pandemic, we used to try and hold our cash balance, call it between $3 billion and $5 billion and run a lot of commercial paper and when the pandemic hit, that was quite problematic for the company. So we're going to be a little bit more conservative here in the near-term.

Operator

Your next question comes from the line of Jeanine Wai with Barclays.

Q - Jeanine Wai {BIO 16974257 <GO>}

Hi, good morning everyone, thanks for taking our questions.

A - Darren W. Woods {BIO 17692013 <GO>}

Good morning.

Q - Jeanine Wai {BIO 16974257 <GO>}

Good morning. Our question is related broadly to your global gas opportunities, can you talk about how you see the evolution of the US market and how do you see certified gas playing a role in US supply. And I guess, do you intend to really look for a global outlet for a portion of your US gas and we understand the Golden Pass that provides a great opportunity to capture the spread, but now maybe are you thinking about some other opportunities besides Golden Pass? Thank you.

A - Darren W. Woods {BIO 17692013 <GO>}

You're welcome, Jeanine and good to hear from you, again. Just maybe a broad comment on the LNG business, obviously as we're seeing across each of our sectors the pandemic had a pretty profound effect with respect to deferring delaying capital spend and therefore additional capacity coming on and as the pandemic has subsided and demand has recovered, we're seeing very tight markets and we've seen that play out really around the world, obviously significant impact and then with the Ukraine and the situation there that has added a significant additional level of uncertainty around supply.

And so I think a very dynamic market and very high priced market and what we've seen in response to that is basically very full capacity utilization for all around the world, maximizing the amount of LNG moving. Obviously, we've got our Coral LNG starting up later this year, which will help contribute and ease some of that tightness and then you mentioned Golden Pass, which is an important leg of our strategy of making sure that we

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have access to LNG supplies, that we can supply demand all around the world and that's a very important part of our strategy in LNG going forward is making sure that we've got barrels that we can then move and trade in the marketplace and move across the different regional demand centers.

And so I think we're going to continue to look for opportunities in LNG, it's an important part of the portfolio, we've got opportunities in PNG that we're progressing obviously, additional investments in Mozambique are in the future as well. And so I think it will be a very important foundational layer of supply and a really important part of our overall business offering.

A - Kathryn A. Mikells {BIO 3743077 <GO>}

And I would just add you asked a little bit about that top rating that we got on methane management in Poker Lake in the Permian and we would say we really see a market over time building for lower emission products and that really plays into that and we would certainly hope that we would also start to see a premium, on those lower emission products, right. And we'd say that's consistent across our business, but we definitely are looking to play into that going forward.

A - Darren W. Woods {BIO 17692013 <GO>}

Yeah, I would just add to that, obviously that will be a benefit, but it's certainly not the main driver, with respect to making sure that our operations had very low emissions and very low methane emissions and so that's a core part of our commitment in running these facilities and to the extent the market pays a premium for that, that's an advantage that we'll look to take advantage of.

Operator

Your next question comes from the line of Devin McDermott with Morgan Stanley.

Q - Devin McDermott {BIO 19137879 <GO>}

Hey, good morning, thanks for taking my question.

A - Darren W. Woods {BIO 17692013 <GO>}

Morning.

Q - Devin McDermott {BIO 19137879 <GO>}

I wanted to ask about some of the structural cost reduction goals, you continue to make good progress there. But the question is can you add a little bit of color around what you're seeing on just broad cost inflation, labor and otherwise. And how, if at all, that impacts some of those goals and targets over time?

A - Kathryn A. Mikells {BIO 3743077 <GO>}

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A - Darren W. Woods {BIO 17692013 <GO>}

Sure and good morning, Neil. Yeah, I mean I can start and I feel like we're going to be a bit of a broken record with respect to the anchoring, a lot of what we're seeing in the market today across our sectors, with the pandemic. And you'll recall, as we are going through that very deep down cycle, where demand for fuels products dropped significantly, there was a lot of refinery rationalization, in fact refineries were shutting down at a much, much higher rate than historical averages, four times, if not higher.

And so you had a lot of capacity coming out the marketplace, there were new facilities that were planned or in progress primarily in the Middle East and out in Asia. Those got deferred and delayed because of the currency, and so you've got, I think this period of time where you're taking a lot of capacity out and new capacity that was planned or in progress has been deferred and delayed and so we've got a period with lower supply and then of course as demand has picked up that has led to this very tight market and the higher margins that we're seeing. What compounded that then is the important role that Russia plays in supplying markets around the world and with the uncertainty associated with that supply and potential impacts of additional sanctions, that's put I think additional concern and anxiety in the marketplace, which is leading to a very, very high-margin environment.

One frankly that I don't think is sustainable one and two good for economies around the world. So I think we're in a bit of a very tight timeframe and as you talked about the first quarter, obviously we saw that evolve over the first quarter with kind of rising margins in January, February, March, and now into April, very high margins and so I think that's something that we're going to see for quite sometime. Certainly here, this year and into next, depending on obviously how demand plays out.

Final point I'll make, which you touched on is you're right this quarter reflects that ramp-up of margins to you're not really seeing the healthy market that we we're experiencing right now in the first quarter results that will I think manifest itself in the second quarter and then some of the timing impacts, we expect to see unwind, maybe I want Kathy to just touch on those.

A - Kathryn A. Mikells {BIO 3743077 <GO>}

Sure. I'm happy to do that and just add a stat our -- our March refining margin was about $4 higher than the average in the quarter. So that's kind of reflecting that ramp-up that Darren just mentioned and then obviously, in our prepared script, you would have seen us talk a fair amount to timing impacts that impacted profitability in Downstream for the quarter. I think everybody understands the mark-to-market on open derivatives, so I won't talk about that, but we had another $590 million of other timing differences, about $400 million of that was also tied to derivatives. We had $200 million that associated with cargoes, where the derivatives actually closed in March and then they reversed when the physical deliveries occurred in April.

So I'd say the way you should think about that is we took a $200 million bad guy in March and we will see a $200 million good guy in April. We also had $200 million associated with federal derivatives that we just used to ensure pricing of our refinery crude runs is radical,

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And frankly, given the integration that we have with those facilities, if you think about our chemicals and refining facilities integrated, which are now reflected in our Product Solutions business and the fact that we've got based toxins, lubricant facilities integrated with those. They are fairly robust platforms with large scale and low cost and what we see is the opportunity that add demand shifts to convert those facilities, to produce more lower emissions fuels, for biofuels and to utilize existing equipment for advanced recycling plastics and that's what you've seen us do in Baytown with conversion of some of our heavy cracking facilities on the refining side used to recycle waste plastic and we've got pretty ambitious plans in that space.

We like what we see there. It gives products that have all the same attributes as Virgin products, but obviously without the same with the ability to recycle the waste and so we like the molecular recycling, that's where we're focusing, we think we can bring an advantage there with one our facilities, but two our technology and then three with our marketing organization with respect to the marketing of this product. So we feel generally good about that. We've got plans to drive that advanced recycling through 500,000 metric tonnes by 2026 should have 30,000 metric tonnes in place by the end of this year.

So I think in total, we like what we see there, the market today is interest in those products and there is a premium out there, so right now I think that looks pretty attractive, I suspect with time that may -- the market will stabilize, but we think it's going to be a pretty healthy market for sometime to come.

Q - Stephen Richardson {BIO 19149224 <GO>}

Thanks very much.

Operator

Next, we'll go to Jason Gabelman with Cowen.

Q - Jason Gabelman {BIO 18730121 <GO>}

Hey, good morning. Thanks for taking my question. I wanted to ask a question about your international gas footprint and the maintenance cadence, because it seems like you've mentioned in the slides that gas production is going to be higher than it typically is in 2Q and 3Q, but you do have higher scheduled maintenance. So I'm wondering if any of that maintenance is in the European gas footprint and then more broadly, if you're seeing in the industry in Europe more tempered declines from European gas into the summer. Just given where prices are and if you can expect that to be a feature of the market, moving forward? Thanks.

A - Darren W. Woods {BIO 17692013 <GO>}

Yeah. Good morning, Jason. Yeah, I think you've touched on the point that we made in our second quarter outlook, with respect to seasonality, which has historically we've seen going into the second quarter, a significant drop in demand for gas and given where the markets are at today and the level of inventories around the world, our expectation is we're not going to see the same level of demand change quarter-on-quarter. We tried to

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indicate that in our outlook, to suggest that we will see same level of seasonality, going forward, I think and as I said earlier in response to Jeanine's question, we do see this market being fairly tight here in the short-term obviously, the industry is working hard to supply that, but it will the time cycle on investments and bringing additional supply on is fairly long, particularly in the context of where demand is at today and the tightness in the marketplace and I think that's going to continue to be with us for a while and as you move -- as demand declined, I think we'll see supply start to move into inventory and so that purchases will move from meeting current demand out in the marketplace to meeting the demand and fill inventory to make sure that inventories are well positioned, as we move through the summer and then back into the fall and into the winter season, that the markets are well supplied.

And then, the final point I'd make there is obviously with what's happening in Ukraine, there is a wild card there that I think most economies and governments around the world are going to make sure that they're trying to mitigate the potential implications, that supply disruption by having good inventory levels.

Operator

All right. Next, we'll go to Sam Margolin with Wolfe Research.

Q - Sam Margolin {BIO 17168841 <GO>}

Good morning, how are you?

A - Kathryn A. Mikells {BIO 3743077 <GO>}

Good morning.

Q - Sam Margolin {BIO 17168841 <GO>}

Question on actually just a longer-term sort of capital allocation question, in the context of what's become kind of conventional wisdom that NOC's around the world are very interested in accelerating activity here and bringing new resource to market. But the majority of NOC's with the exception of a few rely on foreign investment and partners like Exxon Mobil in the industry on the independent operator side has framed a stable spending view over the long-term, which has been something that's been very helpful for investors to have that multi-year CapEx range. So I'm just wondering your perspective on how that squares if the industry is going to get pulled into the imperative of NOC's to spend more and do more or if you think these steady ranges of CapEx are achievable even within that context? Thank you.

A - Kathryn A. Mikells {BIO 3743077 <GO>}

Sure. I'm happy to take that, Sam. So first of all, I would just remind you that we do have CapEx guidance that's out there, obviously, for this year, it's $21 billion to $24 billion and we've talked about kind of through 2027 a range of $20 billion to $25 billion. Now within that, we always try to leave ourselves a little bit of room understanding that there is these opportunities that can come up in the future and obviously we've made some

investments in the type of opportunities that you're talking about in the past and by the way, Golden Pass is a JV that we have with foreign investment that sits behind it as well.

So I'd say we don't feel any particular pressure, I'd just reference back to what Darren said earlier, which is we spend capital, when we have confidence behind the projects and the returns of those projects are on offer, right. And we are, I'd say, very, very disciplined pressure testing those projects to make sure their resilience across, I'd say wide set of market environment given the cyclicality that we have in the business. So we feel great about the opportunities that stand in front of us, right now, obviously we've got low cost of supply barrels that we're investing in via Guyana or the Permian, Brazil. Darren mentioned LNG projects, you know that we're moving forward, which we feel really good about, obviously we've got in the Product Solution, space investments that we continue to make to poor growth in high-value products, right. And to keep, I'd say, optimizing our downstream circuit. So we feel good about that. If there's opportunities, where we feel like there is a good returns to be earned, we'll certainly look at potentially participating in those opportunities. But we're going to be very disciplined in our approach, as you should expect from us.

A - Darren W. Woods {BIO 17692013 <GO>}

Yeah. And I would just add to that, Sam. If you look at the work we've been doing with our organization changes that we've made and the structure consolidation of capabilities across the corporation, one of the changes we announced on April 1st was a technology organization that combines the technical skills and capabilities, and the engineering capabilities across the corporation. We've seen really good results doing that in the project area. We think we've got a real opportunity in the technology area to realize similar benefits in terms of effectiveness on top of whatever efficiencies that might come from that work.

And I would say that effectiveness in that concentration of the technology and really getting the organization to focus on, where we can add unique value and grow competitive advantage, it's going to be a really important part of continuing to be a valued partner with NOCs and others all around the world. Our strategy here is to make sure that we are an essential partner and when NOC's and other resource holders want somebody who can effectively and efficiently develop the resource and doing it in a sustainable manner that first name to come to mind is Exxon Mobil and that we bring those unique capabilities, and I would tell you, I have enormous confidence that, that's what's going to happen, that things that we can see in the pipeline, the opportunities that we have in front of us to become more effective at what we do I think are huge and looking forward to leveraging that business opportunities in future.

Operator

All right. Next question will come from the line of Biraj Borkhataria with RBC.

Q - Biraj Borkhataria {BIO 17234528 <GO>}

Hi, thanks for taking my question. I had a question on Guyana, the fourth FPSO, which you just sanctioned was a large 250,000 barrels a day. I was just wondering in your base case

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plans, are you assuming a similar size for the later FPSO's at that rate. And if I could -- had a cheeky second question, a few days ago there was announcement from DOE around additional export capacity from Golden Pass. I was wondering if you could just help me understand whether that was just an administrative thing, whether that was you still re-looking looking at the project or is some kind of future-proofing ahead of debottlenecking there? Thank you.

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A - Darren W. Woods {BIO 17692013 <GO>}

Yeah, sure. On Guyana, Biraj, I would tell you that as you know, we are having tremendous success with respect to discoveries there and in the characterization of that resource and I would just say that our teams have been very focused on making sure we have a good characterization of that resource, which will then be a really important part of how we choose to develop that resource in a cost effective way to make sure that the cost of supplied and obviously the returns for those projects in lead industry. And so as we look at that, these bigger production facilities make a lot of sense when you have the resources to support them, because it brings your unit cost down, brings down your cost of supply, as we look at extending those developments in other areas of the resource base, it will be a function of what we find, but I would say we would lean towards these larger developments and we'll obviously lean towards extending some of the current developments that we have in taking advantage of whatever synergies we might have with those facilities.

And so I wouldn't say there is a single recipe here, it's really tailoring the recipe and make sure that it's optimized for the development opportunities that we've got in front of us and that's going to evolve, as we better characterize the resource base and I will just say with respect to Golden Pass that project and the work that we're doing there, we feel good about the progress that we're making and we're on schedule. The concept there is not changing.

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Q - Biraj Borkhataria {BIO 17234528 <GO>}

Okay. Thank you.

Operator

Next, we'll go to Roger Reed with Wells Fargo.

Q - Roger Reed {BIO 17967862 <GO>}

Yeah. Thank you and good morning.

A - Kathryn A. Mikells {BIO 3743077 <GO>}

Good morning.

Q - Roger Reed {BIO 17967862 <GO>}

Maybe to come back a little bit to the Guyana question and I was wanting to clarify one thing there and then maybe just sort of a contrast to your Permian operations given

Permian production is higher today, but Guyana resource is probably larger, as we think about the 11 billion barrels of resource, is that -- should we assume that's exclusively oil at this point, I mean, that's been kind of our baseline given the type of production coming out and then how should we think about the long-term gas situation there the opportunity and when I said first the Permian kind of thinking about those two, as we look to the middle and latter part of the decade.

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A - Darren W. Woods {BIO 17692013 <GO>}

Yeah. Good morning, Roger. I would say the resource is a mix and then depending on where you're at within the Stabroek Block that mix changes. Our development priorities is weighted towards liquid. So I think what you'll see in our plan and the way we talk about it is -- there is a bias towards liquid today. And then, with time, we'll see how those developments evolve. We're doing some things with the government of Guyana to bring gas onshore to help deliver more cost efficient and environmentally better power to the people Guyana and give them the much lower cost energy source and a much cleaner energy source and so there is some development gas in that space. So but I would say generally liquids weighted and obviously, as we move through the field and run the economics, we'll develop the resources that optimize capital and grow returns.

Q - Roger Reed {BIO 17967862 <GO>}

Thank you.

Operator

All right. Next question will come from the line of Ryan Todd with Piper Sandler.

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Q - Ryan Todd {BIO 15158570 <GO>}

Good. Thanks. Maybe one on capital allocation, as we think about your capital budget, so it's not just for this year, but over the next few years and the range that you have within those budgets, is that -- should we think about that range is primarily driven by timing or should we -- is there a possibility that higher commodity prices -- should we think of that maybe pushing towards the higher end of the range through some combination of inflation or are there opportunities in the portfolio to deploy a little additional organic capital, whether it's on shorter mid cycle infill drilling, tie-back opportunities, does the higher commodity price open up the door to a little extra capital deployment opportunity there?

A - Darren W. Woods {BIO 17692013 <GO>}

Yeah, I'll just start off and then pass it to Kathy for any additional comments. But I would -- I think the short answer is no. And I think we have tried to emphasize looking through the cycles, looking at the long term and making sure that the investments that we make are robust to the whole of the cycle. You'll remember we were investing pretty heavily when prices were down in anticipation of longer-term fundamentals. I would say, while we're in a very tight market today, we're not going up let that distract us from our focus of making sure that we have low cost of supply industry-leading advantaged projects and so that's -- that remains to focus on the end of the short-cycle stuff, I think to the extent that we stay

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the pandemic, so we had paused some projects and during the pandemic, we did a lot of work to actually put the contracts in place like finished the engineering and put the contracts in place at a point, where I'd say there were some deflationary pressures in the market.

So as it relates to our overall capital projects, we feel pretty good over the next couple of years and obviously strategically the timing of when we do the engineering, when we go out to procurement, it's something that we're always looking at and taking into consideration. And then I mentioned the fact that doing our own procurement globally to make sure that we're getting globally competitive bids is something else we do, we do spend a lot of money over the years, as we are looking forward on the Boards associated with Guyana development and again, we approach that in a really strategic manner. So that we're managing those projects to the lowest cost getting the specific design that we need. So that's how I would really discuss what's happening with regard to inflation.

A - Darren W. Woods {BIO 17692013 <GO>}

And I would just add that the action that we announced this morning that we're taking won't be material in the analysis that you're doing, Paul. Our intention would be to continue to deliver on the efficiencies, I mean at that we had projected in our plans.

Q - Paul Cheng {BIO 1494607 <GO>}

All right. Thank you.

Operator

Next, we'll go to Manav Gupta with Credit Suisse.

Q - Manav Gupta {BIO 20380315 <GO>}

A very quick question here is at the start of the call, you indicated that Asian chemical margins are kind of below mid cycle, and I just wanted to understand, generally when crude moves up, there is a vote for commodity prices. So there is two equations going on here, some capacity coming on, but crude is also moving up, so do you expect the margins to remain below mid-cycle for some time or do you think that higher crude could actually push up the ethylene margins and stuff in the non-US region on a go-forward basis? Thank you.

A - Darren W. Woods {BIO 17692013 <GO>}

Sure. I think it's -- it's an unusual time we've got in the chemical market, just because we see a level dislocation between what's happening in Asia and what we see happening in the Atlantic Basin. I think we made reference in the comments that our North American footprint in chemical in the ethane advantage that we have actually helps mitigate this broader downturn that we're seeing with the global chemical markets, which are heavily weighted to -- or weighted towards the downturn that we're seeing in Asian.

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I think as you look at crude prices coming up in the marginal supply and olefins being liquid cracker and that's the feed that as that crude price goes up, your feed goes up, your naphtha feed goes up. So you've got cost increases on your feed and because of some of the logistics constraints in the ability to kind of connect the market's demand somewhat dislocated and so you've got oversupply in a market like China, where you see some of the demand coming off with the lockdowns and logistics constraints.

I think you've got we're in a unique period right now, where you're seeing some regional imbalances and inability to close those imbalances through logistics and transportation. It's difficult to say how long it's going to last, but I think ultimately as markets open up, we'll see those equilibrate with again -- I think if crude remains high, my suspicion is that ethane and ethane cracking will continue to be advantaged and then that will obviously move as crude prices move with respect to gas prices.

Q - Manav Gupta {BIO 20380315 <GO>}

Thank you.

A - Darren W. Woods {BIO 17692013 <GO>}

You're welcome.

Operator

Next question comes from the line of Lucas Herrmann with Exane.

Q - Lucas Herrmann {BIO 1944351 <GO>}

Darren, thanks very much for the opportunity. I just wanted to return to Golden Pass, if I might and a couple of aspects of the question. The first is just can you expand on the marketing approach and how you intend placing volume, it's a very large project, but it's a project which to the best of my knowledge has very additional by way of contract at this time. So to what extent you sell your part in the QEP will -- how will you be looking to market product and just can you give us some indication on the phasing of the start-up of the three trains, I presume when you talk about 2024 start-up that's the first train. I guess I'd expect four to six months or so, between the start-up of each subsequent train, but any guidance you can give there would be helpful? Thank you.

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A - Darren W. Woods {BIO 17692013 <GO>}

Sure. Good morning, Lucas. Yeah, just to start on the backend of your question. You're right, train one is we expect to start-up in 2024 and then remaining trains in 2025. And what the strategic drive behind that investment and that supply point was really getting a global balance, global footprint with respect to LNG supply. So that Golden Pass facility gives us an anchor point within the America's to take advantage of the US gas market and the developments that we've seen there and the supply potential that we see in US gas.

And so that forms a really important anchor supply point and we intend to use that with a bit the trading business that we're growing in LNG and use it as an ability to trade and

oftentimes bridge some of our other LNG projects are being developed to bridge and supply between those projects that will allow us to optimize and make commitments for projects with flexibility in terms of using Golden Pass as a supply point and then to also just trade in the spot market, so I think it's going to give us a lot of flexibility to supplement our longer-term contracts for our bigger projects, but to also participate in the spot market.

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Q - Lucas Herrmann {BIO 1944351 <GO>}

So there is no intent to contract some of the volume and what could be a very constructive market of pricing over the next two, three years for those who have supply coming on this, not near-term?

A - Darren W. Woods {BIO 17692013 <GO>}

I would tell you that the LNG organization is going to basically develop that portfolio in the way that they think maximizes the value of it, and so I wouldn't take anything off the table, I'm just -- I'm suggesting that it's -- we've got a lot of optionality and flexibility and the expectation is the LNG business and the individual running that take advantage of that flexibility to maximize the value I would characterize it.

Q - Lucas Herrmann {BIO 1944351 <GO>}

Darren, thanks very much.

A - Darren W. Woods {BIO 17692013 <GO>}

You're welcome.

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Operator

And it looks like we have time for one more question. So we'll take that from Neal Dingmann with Truist Securities.

Q - Neal Dingmann {BIO 6416564 <GO>}

Thank you all to squeeze me in and my question is on the Permian. I'm just wondering internally seeing you all running somewhere around 16 rigs and 5 spreads, I'm just wondering, will this continue to be around the level of activity needed in order to achieve that, I think your goal around that 25% year-over-year Permian growth plans and I was just also wondering, if you could talk about maybe just broadly to degree of inflation you're currently seeing there?

A - Darren W. Woods {BIO 17692013 <GO>}

Yeah. I would tell you that the plan that we had and we've talked about with respect to the Permian specifically is somewhere between 10 rigs and 12 rigs and then 6 frac to 8 frac crew, something like that. And we're basically, I think, in line with that plan right now, and part of that is making sure that we're in the developments that we're pursuing are consistent with the base infrastructure, the technology and the capital efficiency

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approaches, that we've built into that development, that tends to drive what we're doing there, I think with and Kathy has touched on, we again had anticipated the market recovery in some of the tightness and so had developed some contracting strategies and partnering with suppliers to try to mitigate that impact that's paying-off.

We're seeing that advantage here in the Permian, eventually that obviously will roll off, some of the consumables and some of the labor tightness that we're seeing in the Permian, obviously that's starting to impact us as well. So we are seeing inflationary pressures, the expectation is that will continue to grow, as the work activity opens up and some of the logistics constraints, get resolved and we're basically -- we've challenged the team to try to manage that and to make sure that as we look at progressing development and grow that production, that we're doing it in a constructive way and not undermining the cost of supply or the advantaged position those barrels, where they sit in the supply cost of supply curve for the industry.

So I think we're going to this disciplined approach that we've talked about is not so much to spend, but in terms of efficiency and making sure that everything -- that every dime spent there is productive and challenge for that team is to make sure, we don't lose productivity of the capital that we're spending.

Q - Neal Dingmann {BIO 6416564 <GO>}

Well said. Thanks, Darren.

A - Darren W. Woods {BIO 17692013 <GO>}

You bet.

A - Jennifer Driscoll {BIO 21035568 <GO>}

Thanks, Darren and thanks everybody for your time and for your questions this morning, we appreciate that. We will post transcript of the call on our Investor website early next week. Have a great weekend. Thanks.

Operator

That does conclude today's conference. We thank everyone again for their participation.

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Economic Club of Colorado
Denver, Colorado
Wednesday, May 4, 2022
AS PREPARED FOR DELIVERY

Good afternoon, everyone. It's great to be here and I guess I've got three separate clubs to acknowledge – the Economic Club, the Petroleum Club, and the Athletic Club. So a triple thanks for the hospitality today. I'm lucky enough to visit Colorado often, I know Denver well, and I'm glad to look around the room and see many friends.

One thing that always strikes me about Denver is the pleasant mix of old and new. You can walk the city and see so many buildings and enterprises that reflect both the past and future. There's a feeling of optimism here that Denver has never lost, and the same is true of the whole Centennial State. As much today as in the late 1800s, people come to Colorado to do big things in important industries.

Today, I want to tell you about 3 things.

1. The importance of American energy security during a critical moment in our nation's history.
2. Energy markets today – where they are, where they are going, and why we must invest in American-made energy.
3. Some recommendations to policymakers in Washington, DC, and in Colorado, on how to maintain and strengthen American energy leadership.

But, first I want to talk a little history.

Everybody's thinking these days about Ukraine, now in the third month of a vicious onslaught by Russia. The sight of one country being brutalized, and bravely defending itself, has left other nations across Europe to face some of their own strategic vulnerabilities. They're thinking hard about security, and that includes where their energy comes from.

In a tough situation, maybe it helps to recall relevant moments from our past. At the height of World War Two, our allies in Great Britain were facing a severe energy shortage. Supplies from the Middle East were hindered by enemy movements, and oil tankers were under attack by U-boats just off America's coasts.

Similar to today, the world was dealing with a brutal dictator who sought to dominate Europe. Energy played a critical role in the Allies' victory in Europe and in Japan. The lessons we learned during World War Two served our nation well for more than 60 years – we invested in homegrown energy, Presidents in both parties recognized the importance of American energy leadership, and there was a bipartisan consensus that America would be an energy leader for decades to come.

As a result of that great consensus, the United States became the world leader in oil and natural gas production. We beat out Russia and Saudi Arabia to be the source of energy the world needed. But, as is so often the case, some became complacent – energy prices were low relative to other components of our economy and energy security was high. Fast forward a bit, and a historic pandemic slowed production because of a supply and demand imbalance. Finally, recent policies from Washington, made in haste and without an appreciation for our shared history, hindered American development and investment. That's a short look at where we are and why I've been inspired to take a look back.

At every critical moment of World War Two, there is a lesson for us to remember as we deal with today's energy crisis. Japan attacked Pearl Harbor to protect their western front as they pursued their energy needs in Southeast Asia. Germany's war effort was punctuated by a lack of energy supplies as they pursued domination. Indeed, Germany literally ran out of gas as they planned their siege of Moscow. On the other side, the United States provided 90% of the oil that the allies used to win the war.

A lot has happened in the last few years, and Washington forgot those facts and other critical lessons of the past. We lived through a blissful holiday from energy history, but everything changed when Putin invaded Ukraine and suddenly energy regained the important role it should have in the minds of policymakers.

Looking ahead, if our country is going to live up to our billing as the world's energy leader, then we can look to Colorado to see how it's done. This state has been right in the middle of what we call the dual challenge – meeting America's energy needs, and doing so safely and responsibly to protect the environment and build a lower-carbon future.

In fact, Colorado is America's sixth-leading oil producer and seventh-leading natural gas producer. You've also been a state where a number of misguided policies, intended to block energy production, have been rejected, underscoring the primacy that reasonable federal policy should have over hyper-local agendas.

For Colorado's producers to do their part to help meet growing energy demand, regulatory and political certainty is a must. Permits have fallen significantly since passage of Senate Bill 181 in 2019 and follow-on regulatory actions. And the state is lagging others in energy production recovery since the pandemic. Recently, Colorado had 15 active rigs – down from a high of 33 in May 2019. State policymakers can and should take action to ensure that Colorado operators can produce the natural gas and oil needed by American families, businesses, and America's allies abroad.

API has many member companies in Colorado and we have an office right here in Denver, ably led by the great Lynn Granger. Oil and natural gas directly and indirectly add about $46 billion to the state's GDP, support 340,000 jobs, and account for more than 13 percent of total labor income. Colorado is truly an example of the combination of abundant resources and safe, responsible development.

Environmental progress will always take active, sustained commitment – Colorado is known for that, too. And when it comes to alternative energy sources, it's a similar story. Already, 30 percent of electricity here comes from wind and solar. That puts you way ahead of most other states in achieving the all-of-the-above energy diversity we all want to see.

Your resourcefulness can be felt nationwide. In times of challenge for Western countries, it's good to remember that American ingenuity can make all the difference. The lesson is relevant today because many of our friends in Europe are making fundamental changes in energy policy. And they're able to do that only because America is here to back them up.

Right now, with Russia using energy as a weapon, American producers are helping to stabilize Europe. There's still a lot of uncertainty about this terrible war and how it will play out. But at least our friends in Europe know that some energy from Russia can be replaced by reliable energy from America.

This crisis has brought us to another moment of clarity: We see friendly nations left vulnerable, and we never want to be in that position ourselves. We see global demand overtaking supply, raising costs for everybody. Yet as complex as the picture might seem, the simple precondition for lower prices is greater supply.

As much as ever, we need to think hard about that basic economic truth, and we must act to stay in command of our energy future. That means recognizing energy from natural gas and oil as the critical strategic asset it is to America – and never taking it for granted again.

Take the U.S. pledge to increase gas exports to Europe – by 65 percent over the next six years. Sure, it can be done, and yes, we're all for it. But in this case, Washington isn't letting our industry use the tools and levers needed to meet that goal.

To get supplies on this scale to export terminals and over to Europe, we'll need two basic things – access to energy on federal lands, which is a big deal in a state like yours – and the infrastructure to move it. That means laying many miles of pipelines and getting the federal and state permits to do so. When we mention details like these, it gets politically complicated. But that's just the reality. If Europe's going to get the energy, then America will need the access and the infrastructure to get it there.

One example of taking things for granted came recently when the U.S. Secretary of Energy addressed a conference in Houston, telling the industry that America needs to pump more oil. That was good to hear, but it still doesn't make up for policies that discourage investment and impede infrastructure. As if to prove the point, late last month the White House announced even more rules to slow down permitting. The rules are so broad that they're likely to hold back transmission of energy even from renewables. Such contradictions and mixed signals only cause uncertainty, and they set our country up for more trouble down the road.

For example, the President's top climate advisor recently said: "President Biden remains absolutely committed to not moving forward with additional drilling on public lands. The challenge that we faced was that we had a court that ordered a new lease to be done. The Department of Energy had no choice but to put it out. But they also found ways to reduce the size of that and its impact. And we'll keep doing what we need to do to appeal."

Talk about mixed messages. We can't treat the oil and natural gas industry as a kind of light switch that is turned on or off to suit the political moment. Production and delivery don't work that way. Yet the overriding policy lately has been to cancel pipelines, block permits, and deny leases – all of which suppress needed investment.

It can be easy and fashionable to speak as if we hardly even need oil or natural gas anymore. But then disruptions occur, and once again everybody is staring down the truth. Now, suddenly, some policymakers want to flip the switch "on" again, but only for a short time. And as practical realities intrude, mostly what we hear from Washington is blame-shifting and excuses.

What brought prices to where they are now is a combination of bad policy, a pandemic, and lately the effects of Russia's war. These conditions led to at least one new policy – to take a million barrels a day out of the Strategic Petroleum Reserve over the next six months. But it's reasonable to ask: Why simply increase oil supply as a temporary measure by government, when America has vast underground reserves that could expand reliable supply on an ongoing basis?

To point out the obvious, what we're dealing with here is short-term thinking, disconnected from hard reality. Washington is caught up in the "here and now," desperately improvising in the absence of a consistent, long-term energy strategy.

But there is one upside. As more Americans face the consequences of bad policy, the elements of good policy become that much more apparent and compelling. We have our best chance in years to re-center the discussion around the broadly shared objective of energy security – and of all the economic and environmental benefits that come with it.

The environmental benefits are in some ways easy to cite, because no nation has anything to compare with the phenomenal progress we've made in the United States. Suppose someone had told us 20 years ago that power generation in America would see a 30 percent decline in greenhouse emissions. We would have assumed, number one, that there must have been some sweeping government mandate to make it happen . . . and, number two, that it spelled an era of decline for the oil and gas industry.

Yet exactly the opposite is true. No such mandate was ever imposed. What happened instead was a series of technological leaps that have changed the whole energy picture, profoundly and for the better. As we transition from coal to natural gas, since 2000 the United States has become the world's leader in reducing CO_2 emissions. With years of investment and a lot of ingenuity, we've shown that rising energy production doesn't have to mean ever-increasing carbon emissions.

We're a problem-solving, technology-driven industry, with some of the best engineering minds in any field. We take environmental challenges seriously; we know we're not going to impress anyone by just talking about them. Practical, real solutions are the only things that matter.

It's a big environmental achievement to reduce your surface footprint by almost 90 percent, as our industry has done in many places. It will mark another huge advance when hydrogen becomes a major energy source . . . or when methane emissions and flaring are brought down to an absolute minimum. And on both fronts, we're determined to get there.

Step by step, innovation by innovation, our members are going straight at complex problems – improving carbon capture, developing cleaner-burning fuels, and bringing new technologies to commercial scale. Our industry is investing heavily in these and other goals – and frankly, it's making us better in all that we do.

And one more point about environmental leadership: Many oil- and natural gas-producing countries don't match our progress because they don't match our standards. So it's better when the producing is done in America, where we have among the highest standards in the world.

Fortunately, we're up to the task. After all, for most of our lifetimes, this country was a net importer of crude oil. Yet by 2020, we had become a net exporter of petroleum, for the first time since the 1950s. Five years ago, the United States became a net exporter of natural gas. And we have just become the world's number-one exporter of liquid natural gas. Horizontal drilling, hydraulic fracturing, and other breakthroughs have given us access to immense reserves of oil and natural gas – reserves that will be essential deep into the future.

Setting ideology aside, most everyone knows that the world needs oil and natural gas in a big way and will for decades. The only question is where that oil and gas will come from. As our friends in Europe have learned the hard way, you don't want to rely on an energy supplier who might quickly turn hostile.

The plain fact is that if nations do not control their own energy, their fate is in the hands of others. And we must never let that happen to the United States of America.

We talked about energy security forever and then we finally achieved it. We worked hard to put America in a position of strength and greater independence. It would be foolish, and even tragic, to ever give it up.

That alone is a powerful argument for more investment, more exploration, and more innovation to keep us in a commanding position no matter what the future might bring. Energy policy does not have to be an endless series of crisis-management decisions. Our aim should be to *avoid* crises, by shaping events instead of waiting on them. Thankfully, Washington can help our industry do four things fast, and we hope you'll call or write your representatives to get to work. Taken together, we believe these policy steps can have a decisive impact.

The first is oil and natural gas production on federal lands. Up to now, the administration hasn't completed a single lease sale. At this point in his first term, President Obama had issued nearly 50. A few weeks ago, the administration did finally agree to hold a sale, but they undercut their purposes by scaling back available acreage and raising royalty fees. If the aim is to deal with rising gas prices, we're going to need a lot more movement and purpose than we're seeing right now.

Second, with America's five-year offshore leasing program about to expire next month, we need a new one fast. Not only does the law require such a plan; without one, there is no way for American producers to plan offshore development. These projects take seven or more years to bring online, so we're talking jobs, economic activity, and affordable energy that will all depend on a new offshore leasing program.

Third, the Department of Energy should continue to approve all LNG export applications and ask Congress to allow swift approval of exports to non-free-trade-agreement nations.

Finally, in Washington we need a big course correction on infrastructure. Being the world's number one energy producer will mean less and less if we're not able to move it to refineries, to users, and to shipping ports. We know how to do this safely, cleanly, and effectively. Endless regulatory obstacles and lawsuits might please some interest groups, but they are not in the best interest of our country.

After all, every citizen has a stake in America's energy leadership, because energy touches everything else in the economy.

This is an industry well-known and appreciated in Colorado. But I could also show you around places in Pennsylvania, Ohio, North Dakota, New Mexico, and elsewhere that have seen job growth and economic revival more durable and broad-based than anyone imagined was possible. That spreads out to parts and equipment suppliers, truckers, contractors, service providers, and on and on. We're talking about a powerful engine with a history of prosperity and patriotism. And I would rather keep that engine running in America than anywhere else.

Thank you very much.

https://www.reuters.com/world/us/california-says-it-needs-more-power-keep-lights-2022-05-06/?taid=6275e7c3b2a94c00017e402a&utm_campaign=trueAnthem:+Trending+Content&utm_medium=trueAnthem&utm_source=twitter

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California says it needs more power to keep the lights on

By Nichola Groom

May 6 (Reuters) - California energy officials on Friday issued a sober forecast for the state's electrical grid, saying it lacks sufficient capacity to keep the lights on this summer and beyond if heatwaves, wildfires or other extreme events take their toll.

The update from leaders from three state agencies and the office of Governor Gavin Newsom comes in response to a string of challenges with the ambitious transition away from fossil fuels, including rolling blackouts during a summer heat wave in 2020.

California has among the most aggressive climate change policies in the world, including a goal of producing all of its electricity from carbon-free sources by 2045.

In an online briefing with reporters, the officials forecast a potential shortfall of 1,700 megawatts this year, a number that could go as high as 5,000 MW if the grid is taxed by multiple challenges that reduce available power while sending demand soaring, state officials said during an online briefing with reporters.

Supply gaps along those lines could leave between 1 million and 4 million people without power. Outages will only happen under extreme conditions, officials cautioned, and will depend in part on the success of conservation measures.

In 2025, the state will still have a capacity shortfall of about 1,800 MW, according to officials from the California Energy Commission, Public Utilities Commission, California Independent System Operator and Newsom's office. They also projected annual electricity rate increases of between 4% and 9% between now and 2025.
California's electricity planning has been challenged as devastating wildfires have cut off transmission lines and extreme heat events and drought have hampered hydropower supplies. Officials said traditional electricity demand forecasting does not account for such extreme events prompted by a changing climate.

At the same time, many solar farms and energy storage projects the state has commissioned over the last two years were delayed due to supply chain challenges during the pandemic and a recent federal trade probe into solar imports.

"We are in a place now where we have to factor in a new landscape in terms of the challenge in front of us with bringing the projects that we need online," Karen Douglas, an adviser to Newsom, said during the briefing.

The announcement, which came a week after Newsom said the state was open to keeping its remaining nuclear power plant running to maintain reliability, appeared to lay the groundwork for an effort to keep older facilities -- some of which are powered by natural gas -- online.

"We need to make sure that the we have sufficient new resources in place and operational before we let some of these retirements go," said Mark Rothleder, chief operating officer at the California ISO grid operator. "Otherwise we are putting ourselves potentially at risk of having insufficient capacity."

Reporting by Nichola Groom; Editing by David Gregorio and Alistair Bell

Lightsource bp alone has 16 gigawatts in its pipeline – up from 9.8 gigawatts this time last year and just 1.6 gigawatts in 2018.

And, of course, we are now entering the offshore wind sector, which is growing faster than any other form of renewable energy.

I am really excited about the partnership we have agreed to create with Equinor. They are a world-class offshore wind company and we look forward to growing with them.

[PAUSE]

But let me be clear.

We know what happens when volume becomes more important than value.

And therefore we will only pursue opportunities that we believe can generate the disciplined returns we expect, and our shareholders expect.

And that links to the fourth question.

Can we deliver the 8-10% returns from renewables?

The answer is very simply – yes.

We actually believe we can do better, and these returns could turn out to be conservative. But let me take you through why we have absolute confidence in our plan.

It is firstly based on experience – specifically with Lightsource bp

Since we formed the partnership at the start of 2018, Lightsource bp has expanded its presence from 5 to 13 countries.

As I mentioned, it has grown its project pipeline from 1.6 gigawatts to 16.

And it has delivered 17 projects since 2018.

They typically achieve returns in the 8 to 10% range.

So how do <u>we</u> get to 8 to 10% across our renewables portfolio as a whole?

First, we know returns start at around 5 to 6% on an equity basis in a competitive auction.

Second, we believe that through our extensive experience in operations and project management – we can add value through applying our processes. We have track record here. For example in Biofuels – where we have, and more recently through bp Bunge, have increased the efficiency in harvesting by 50% since 2016.

Third, we'll integrate with the rest of bp. Through Trading where we have a long track record – over 30 years – of delivering close to a 2% return uplift. Or through the application of our digital expertise to drive additional performance. Or by bundling our renewables offer with different forms of energy along with our Natural Climate Solutions and offsets portfolio, to give customers what they want – clean, low cost and firm energy.

Fourth, we will use leverage which is typical in this industry.

The combination of these four areas gets us to 8-10%.

Beyond this – we have the choice to optimize the portfolio – to farm down or not – and if we do – that could add a further 1 to 2%.

So yes – we are confident we can deliver the returns we are targeting.

Now the fifth and final question – why bp? What is our competitive advantage – really?

Especially in this new world.

And there are four reasons:

First – our strong track record in operations and project management.

Second – our focus on relationships and partnerships around the world,

Third – our approach to digital and how we are using it to drive cost benefits and generate incremental value

Fourth – integration, and specifically our ability to integrate at a global level and across energy vectors.

Starting with operations and project management.

Today we are strong in oil and gas, strong in refining and have demonstrated how many of these technical skills are transferable.

We have an exceptional global project management organisation – top

INTRODUCTION

With the introduction of zero-emission trucks (ZETs) to the Class 8 market, the trucking industry may have viable alternatives to internal combustion engines (ICEs).[1] Unlike ICE trucks, ZETs are not powered with diesel – they instead use electricity that is either stored in batteries or produced onboard with hydrogen to power an electric motor. The ZET approach to vehicle propulsion produces no direct tailpipe emissions during operations.

From a life-cycle perspective, however, ZETs are still responsible for generating greenhouse gases (GHG) such as carbon dioxide (CO_2), which is tied to climate change. While CO_2 emissions are not directly released by a ZET during operations, such emissions are released during the production of ZET fuels (electricity and hydrogen) and the production and disposal of ZET vehicles and their electricity storage equipment (lithium-ion batteries).

That said, the core motivations for a shift to ZETs remain environmental, and it may be possible to decrease the trucking industry's emissions through their deployment – although the scale of environmental benefit is unclear.[2]

While the environmental motivation to adopt ZETs is growing, there are several cost considerations. For the foreseeable future, these include:

- the replacement of existing Class 8 trucks with significantly higher-priced trucks;
- an entirely new approach to refueling; and
- changes to the operational structure of the trucking industry due to decreased range capabilities.

While these ZET-related costs may ultimately be passed on to consumers, the trucking industry must consider the short-term cost implications for investing in ZETs. Additionally, both industry and government must understand the calculus associated with life-cycle environmental impacts of ZETs, as they do not eliminate CO_2 emissions. To understand the full environmental and financial cost-benefit calculation, it is critical to first document life-cycle emissions for both ICE and ZET trucks. This report focuses on the life-cycle CO_2 emissions for the following truck types:

- Internal Combustion Engine Trucks. This is the traditional truck type used by the trucking industry. ICE trucks have a compression ignition engine that is powered by diesel. The combustion within the engine requires an exhaust system for the emissions.

- Battery Electric Vehicle (BEV) Trucks. BEV trucks are a type of ZET that have an electric motor powered by electricity stored in large onboard lithium-ion batteries. This vehicle type does not have tailpipe emissions. While there are millions of heavy-duty ICE trucks currently registered in the U.S., the number of BEV heavy-duty trucks in operation today is likely more than 50 and growing.

- Fuel Cell Electric Vehicle (FCEV) Trucks. FCEV trucks are a type of ZET that have an electric motor powered by electricity produced within a hydrogen fuel cell. The hydrogen

[1] Congressional Research Service. "Class 8 Truck Zero-Emission Routes." February 9, 2021. Available online: https://crsreports.congress.gov/product/pdf/IN/IN11598

[2] There are several other likely benefits to electric trucks that are not the focus of this paper, which include diversification in energy sources, smoother ride, better acceleration and less complicated repair and maintenance, to name a few.

fuel is stored onboard in large tanks. This vehicle type does not have tailpipe emissions. It is anticipated that FCEV heavy-duty trucks will be commercially available in two to three years.

For each of these truck types the life-cycle CO_2 emissions will be calculated. The life-cycle stages are:

- Vehicle Production. This includes the CO_2 emissions released during all vehicle production processes, including the extraction of raw materials and final vehicle assembly. For the BEV in particular, this includes both the production of the truck and the large lithium-ion battery.

- Energy Production and Consumption. This includes the CO_2 emissions released during the production of energy (e.g. the production of electricity at a power plant, or the refining of diesel fuel from crude oil). Additionally, this includes the CO_2 emissions from final fuel consumption (which only applies to ICE vehicles in this research).

- Vehicle Disposal and Recycling. This includes emissions related to the disposal or recycling of the truck and also the disposal and recycling of lithium-ion batteries for the BEV.

Research Objective

The purpose of this report is to better understand the life-cycle CO_2 emissions of three Class 8 sleeper cab trucks. These trucks will be referred to throughout the report as follows:

- Internal Combustion Engine (ICE) Truck
- Battery Electric Vehicle (BEV) Truck
- Fuel Cell Electric Vehicle (FCEV) Truck

The life-cycle stages, described earlier, will be referred to as:

- Vehicle Production
- Energy Production and Consumption
- Vehicle Disposal and Recycling

The research first sets a baseline life-cycle CO_2 calculation for each stage of the ICE truck, and then compares that ICE baseline to the two other truck types. The research then explores approaches to improving emissions for all three vehicle types through improvements in technology.

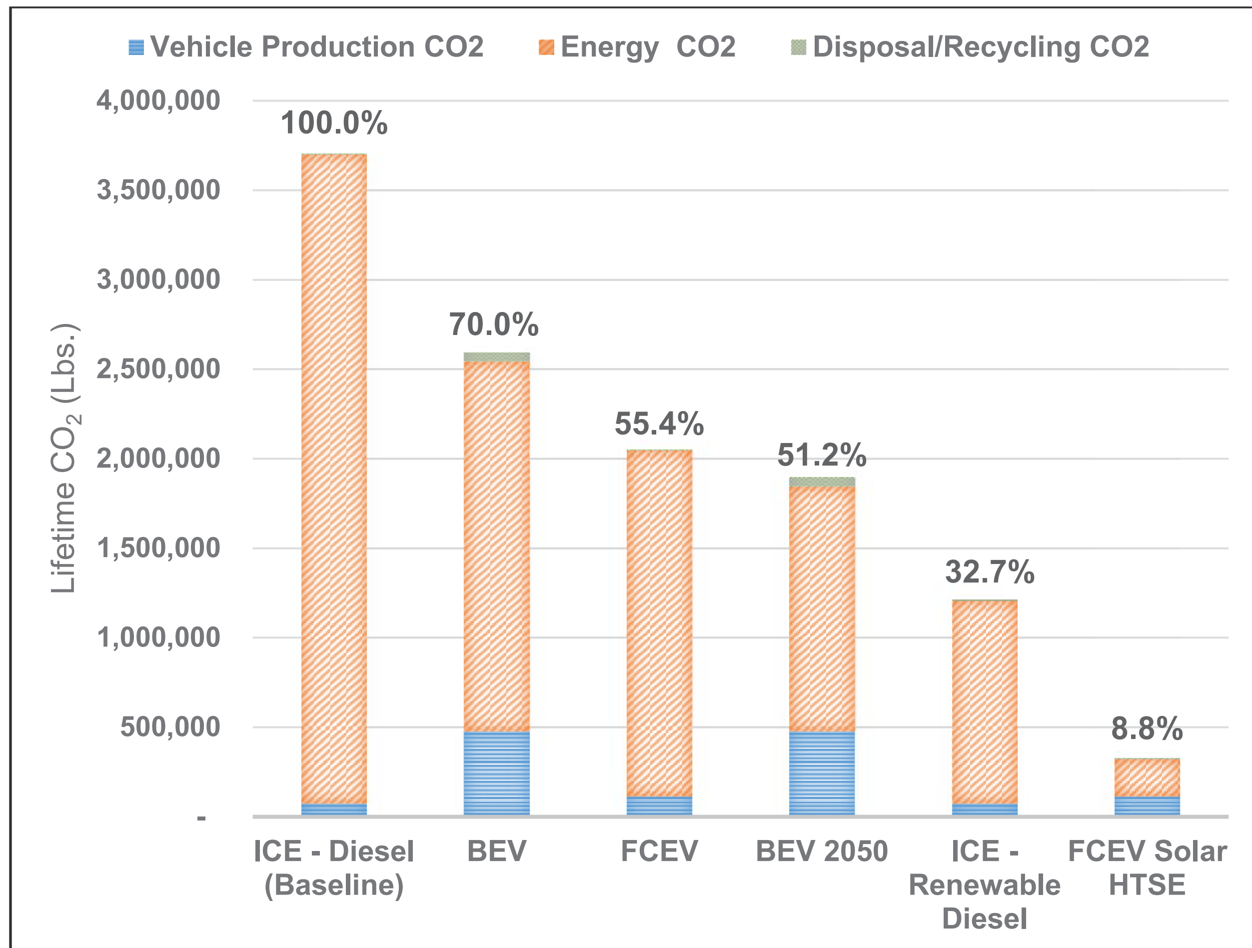
This research provides industry, government and other stakeholders with a technical environmental impact assessment of switching to ZETs, as well as a glimpse at the advancements that may be needed to further decrease industry emissions.

Table 17: Key Findings

Key Findings	Summary	Description
Vehicle Production Findings	BEV truck production emits more than six times the CO_2 as an ICE truck due to the BEV's Lithium-Ion Battery.	There are two key factors that separate long-haul BEV trucks from other types of BEVs: 1. Long-haul trucks must operate continuously, often covering more than 100,000 miles per year, which results in a more frequent battery replacement cycle. 2. To cover daily long-haul mileage, the battery must be large and thus contain a significant amount of mined lithium-ion battery materials. The 17,039 lb. lithium-ion battery modeled in this report is a necessity for long-haul trucking. Yet this battery requires tons of materials that must be mined, producing a significant amount of CO_2 emissions. As a result of this, vehicle production for the BEV truck produced considerable CO_2 (478,055 lbs.), far outweighing the carbon footprint of both ICE (74,728 lbs.) and FCEV (115,514) trucks.
Energy Production and Consumption Findings	ZETs have lower energy emissions (with nearly half the CO_2 emissions of ICE trucks), but lack the infrastructure needed for deployment.	ICE trucks burning conventional diesel emit the largest amount of CO_2. The two alternatives reviewed have lower energy-related emissions: BEV trucks (using electricity) have 43.1 percent lower emissions than ICE emissions, and FCEV trucks (using hydrogen) have 46.7 percent lower emissions when using today's energy sources. While these are significant CO_2 decreases, they do not equate to "zero-emission" vehicles. Additionally, fuel must be delivered to long-haul trucks – and the infrastructure and energy capacity to do this on a large scale does not currently exist for either electricity or hydrogen. In summary, these requirements are plausible, but it would likely take decades for a meaningful impact to be felt.
Vehicle Disposal and Recycling Findings	BEV battery recycling could produce more than 77,000 lbs. of CO_2.	The least amount of CO_2 emissions is associated with disposal and recycling of the truck. The notable CO_2 emissions source in this category was BEV lithium-ion battery recycling. There are several approaches to recycling a large truck battery and it is unclear which one will be used in the future. The range of possible CO_2 results for BEV lifetime battery recycling is between 20,127 and 77,565 lbs. The average CO_2 emissions among four options was 48,255, which is a little more than 10 percent of the battery manufacturing CO_2.

Figure 11 shows the potential CO_2 emission reductions (in pounds of CO_2 and as a percentage of the diesel baseline) for each of the vehicle types when changes in energy sources are applied.

Figure 11: Key Findings from the Scenario Analysis



Overall, the three truck types studied in this report have a pathway for lowering CO_2 emissions in the coming decades. Research is needed to improve upon CO_2 reduction efforts, and specifically to lower energy source CO_2. While public policy is currently focused on moving the industry toward BEV, this research shows that even greater truck CO_2 emission reductions can be achieved through other approaches.

Pension Finance Watch

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Pension index increased in April

The WTW Pension Index continued to increase in April to the highest level it has seen since April 2002, despite continued volatility during the month. Negative investment returns continue to be more than offset by the reduction in liabilities due to increases in discount rates. As a result, the end-of-April index level of 97.1 reflects an increase of 1.2% for the month.

WTW Pension Index

97.1 as of 4/30/2022

100
90
80
70
60
50

2012 2013 2014 2015 2016 2017 2018 2019 2020 2021

About this report

Pension Finance Watch is designed to support our clients in the ongoing financial management of their U.S. retirement plans. The report tracks the value of the WTW Pension Index in a series that was initiated in 1990.

The index reflects the asset/liability performance of a hypothetical benchmark pension plan, and it provides an indicator of capital market effects on pension plan financing. Individual plan results will vary based on such factors as portfolio composition, investment management strategy, liability characteristics and contribution policy.

If you have questions or comments about this report, please contact
Christopher Kludy, FSA, MAAA, EA, CFA at chris.kludy@willistowerswatson.com

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Investment returns

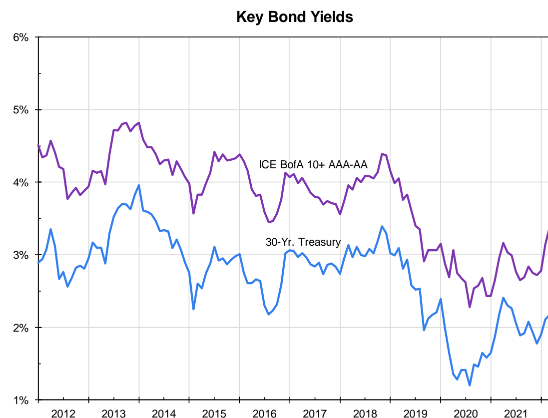
The equity portion of the benchmark portfolio returned -8.3% in April, with the domestic large cap equity asset class incurring the largest decline. The fixed income investments of the tracked benchmark portfolio also had a negative return at -3.3%, with long Corporate and Treasury bonds experiencing the largest losses.

Asset Class Returns			
	April 2022	*YTD*	*Last 12 Months*
Stock Returns			
S&P 500 (Large Cap)	-8.7%	-12.9%	0.2%
Russell 2500 (U.S. Small/Mid-Cap)	-8.5%	-13.8%	-11.7%
EAFE (International)	-6.5%	-12.0%	-8.1%
Fixed Income Returns			
3-Month T-Bills	0.0%	0.1%	0.1%
Long Treasury Bonds	-8.9%	-18.5%	-12.2%
Bloomberg Barclays U.S. Aggregate	-3.8%	-9.5%	-8.5%
Long Corporate Bonds (AAA/AA)	-9.3%	-19.6%	-14.4%

Interest rates

Yields on long high-quality corporate bond indices increased an average of 60 basis points. These were matched by the increasing long Treasury rates. Yields on 10- and 30-year Treasury bonds increased 57 and 52 basis points, respectively.

Bond Yields			
	Apr. 2022	*Dec 2021*	*Apr. 2021*
U.S. Treasuries			
30-Year	2.96	1.90	2.30
10-Year	2.89	1.52	1.65
3-Month	0.85	0.06	0.01
Corporate Bonds			
ICE BofA 10+ AAA-AA	4.24	2.78	3.03
BB Aggregate	3.48	1.76	1.53



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Effect on pension index

The WTW Pension Index tracks the performance of a hypothetical pension plan invested in a 60% equity/40% fixed income portfolio. This portfolio recorded a -6.3% return for the month. Several alternative portfolios are also monitored. Portfolios with 20% and 60% fixed income allocations produced -7.3% and -5.3% returns, respectively. A variation of the 60% fixed income portfolio that incorporates longer-duration fixed income investments generated a -8.3% monthly return.

Discount rates used by U.S. plan sponsors to measure pension obligations are typically measured with reference to yields on high quality corporate bonds. The index relies on WTW's proprietary RATE:Link model for this purpose.

Pension obligations move in the opposite direction of the interest rates used for their valuation. The liability implicit in the index decreased by 7.4% from the discount rate change and the accumulation of interest.

These factors contributed to an overall increase of 1.2% in the WTW Pension Index, which closes the month at 97.1.

Pension Index Results

	April 2022	*YTD*	*Last 12 Months*
Benchmark Portfolio Returns			
20% Fixed Income	-7.3%	-12.0%	-4.0%
40% Fixed Income (benchmark)	-6.3%	-11.0%	-4.8%
60% Fixed Income	-5.3%	-10.1%	-5.6%
60% Fixed Income (long duration version)	-8.3%	-15.5%	-8.4%
Benchmark Plan Liability Results			
Discount Rate (at valuation date)*	4.54	3.03	3.28
Liability Growth Factor	-7.4%	-17.9%	-13.1%
Pension Index*	97.1	89.6	88.6
Percentage change	+1.2%	+8.3%	+9.6%

*Discount rates and pension index values in the three columns are as of 4/302022, 12/31/2021 and 4/30/2021, respectively.

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Definition of terms

Asset Class Returns

- Total return incorporates the combined effect of price changes and interest/dividend income; this may differ from index results which are based only on price changes.
- The Russell 2500 Index tracks companies ranked 501 to 3000 ordered by market value of equity; these are considered small and mid-capitalization stocks.
- EAFE refers to the Morgan Stanley Capital International Europe, Australasia, Far East Index of equity securities; total return is reported in U.S. dollars, which includes the effect of currency changes.
- 3-Month T-Bill returns are based on the FTSE 3-Month Treasury Bill Index.
- Long Treasury Bond returns are based on the Bloomberg Barclays Long Treasury Bond Index.
- Prior to April 2022, Long Corporate Bond returns were based on the FTSE High Grade Credit Index (as described below). As the FTSE Index has been decommissioned at the end of March 2022, starting on April 2022, returns are based on the ICE BofA 10+ AAA-AA Index (as described below).

Bond Yields

- Treasury yields are constant maturity yields reported by the Federal Reserve.
- ICE BofA 10+ AAA-AA Index includes issues with 10+ years to maturity and AA or AAA ratings from the ICE Bank of America U.S. Corporate Master Index.
- FTSE High Grade Credit Index includes issues with 10+ years to maturity and a minimum rating of AA-/Aa3.
- Bloomberg Barclays U.S. Aggregate Bond Index covers the broad range of investment grade bonds, including government and corporate securities (minimum grade Baa) and mortgages.
- Bond yields are stated as yields to maturity, on a bond-equivalent basis (reflecting semi-annual coupons).

Benchmark Portfolio Returns

- The benchmark portfolio reflects a diversified asset allocation of 60% equity (40% large cap, 10% small/mid-cap, 10% international) and 40% fixed income (35% BB Aggregate bonds, 5% T-bills). This generally aligns with the average portfolio for the 300 large companies included in WTW's benchmarking database.
- Alternative portfolios with 20% and 60% fixed income allocations are constructed with similar asset class ratios within their equity and fixed income segments.
- The 60% fixed income-long duration portfolio includes a similarly constructed equity segment along with a fixed income segment consisting of 27.5% long corporate bonds, 27.5% long Treasury bonds and 5% T-bills.

Benchmark Discount Rate

- The discount rate is determined for our benchmark plan each month using a yield curve developed based on high-quality corporate bonds (10th-90th percentiles). This calculation uses WTW's RATE:Link methodology to develop an appropriate discount rate based on the benchmark plan's projected cash flows. Higher or lower discount rates might be appropriate for other plans.

Liability Growth Factor

- The benchmark plan is based on a traditional final-pay based formula and covers a relatively mature population. Roughly one-half of the plan's obligations are related to inactive participants. The liability growth factor measures the change in the plan's projected benefit obligation due to the accumulation of interest and changes in financial assumptions.*

WTW Pension Index

- The index is designed to capture the impact of capital market results, without influence from the costs of ongoing accruals or cash inflows/outflows related to contributions and benefit payments.
- The index reflects the PBO funded ratio (market value of assets/projected benefit obligation) for a benchmark pension plan. The asset value changes from month to month based on the investment performance of the 40% fixed income portfolio. Liability values are adjusted to reflect changes in financial assumptions.

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* Discount rate and compensation increase assumptions are adjusted to reflect changes in market interest rates. The net sensitivity of the benchmark plan's benefit obligation to a percentage point change in interest rates is roughly 14%. These dynamics vary considerably among plans, depending on characteristics such as the benefit formula and on the demographic profile of the covered population.

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https://www.fao.org/worldfoodsituation/foodpricesindex/en/

World Food Situation

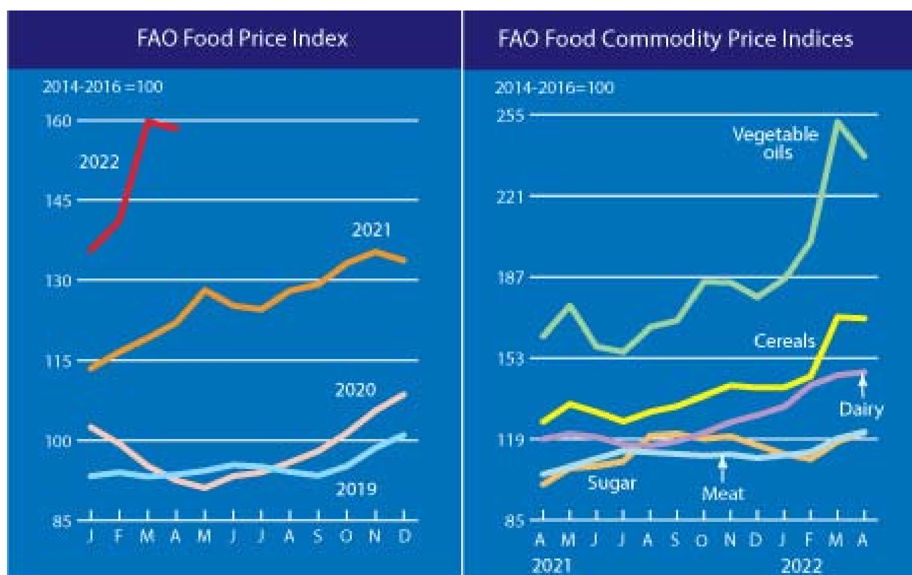
FAO Food Price Index

The FAO Food Price Index (FFPI) is a measure of the monthly change in international prices of a basket of food commodities. It consists of the average of five commodity group price indices weighted by the average export shares of each of the groups over 2014-2016. A feature article published in the June 2020 edition of the Food Outlook presents the revision of the base period for the calculation of the FFPI and the expansion of its price coverage, to be introduced from July 2020. A November 2013 article contains technical background on the previous construction of the FFPI.

Monthly release dates for 2022: 6 January, 3 February, 4 March, 8 April, 6 May, 3 June, 8 July, 5 August, 2 September, 7 October, 4 November, 2 December.

FAO Food Price Index retreated slightly in April from the all-time high registered in March

Release date: 06/05/2022



* (FFPI) averaged 158.5 points in April 2022, down 1.2 points (0.8 percent) from the all-time high reached in March, though still 36.4 points (29.8 percent) above its value in the corresponding month last year. The drop in the FFPI in April was led by a significant downturn in the vegetable oil sub-index, along with a slight decline in the cereal price sub-index. Meanwhile, sugar, meat and dairy price sub-indices sustained moderate increases.

» The FAO Cereal Price Index averaged 169.5 points in April, down 0.7 points (0.4 percent) from the record high reached in March (since 1990). After surging to a record level in March, international coarse grain prices dropped by 1.8 percent in April, led by a 3.0 percent decline in maize prices, as seasonal supplies from ongoing harvests in Argentina and Brazil helped ease the pressure on markets. World sorghum prices also declined in April by 0.4 percent, while tight supplies pushed barley prices up by 2.5 percent. International wheat prices edged upwards in April, albeit marginally, gaining 0.2 percent. Continued blockage of ports in Ukraine and concerns over 2022 crop conditions in the United States of America kept prices elevated, but the price increases were moderated by larger shipments from India, higher-than expected exports from the Russian Federation, and

slightly dampened global demand as a result of high prices. International rice prices in April went up 2.3 percent from their March levels, sustained by a combination of strong local demand in various Asian exporters, purchases by Near Eastern and Chinese buyers and weather setbacks in the Americas.

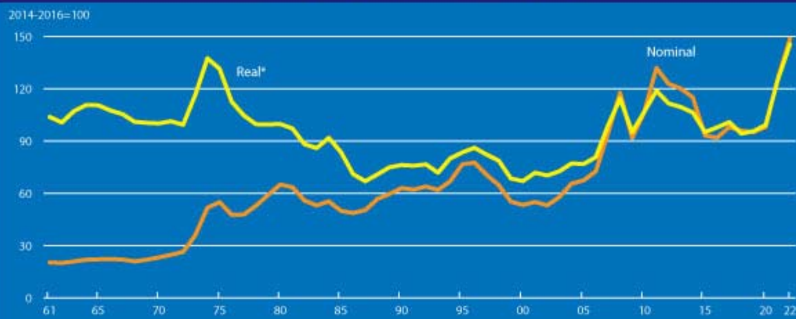
» The FAO Vegetable Oil Price Index averaged 237.5 points in April, shedding 14.3 points (5.7 percent) from the record high registered in March, but remaining markedly above its year-earlier level. The decline was driven by lower world prices of palm, sunflower and soy oils, which more than offset higher rapeseed oil quotations. International palm oil prices dropped moderately in April, mainly weighed by subdued global import purchases amid high costs as well as a weakening demand outlook in China. Nevertheless, uncertainties about export availabilities out of Indonesia, the world's leading palm oil exporter, contained further declines in international prices. In the meantime, world sunflower and soy oil prices also fell month-on-month, largely tied to demand-rationing following the record high prices seen lately. By contrast, rapeseed oil prices stayed firm in April, sustained by lingering global supply tightness.

» The FAO Dairy Price Index averaged 147.1 points in April, up 1.3 points (0.9 percent) from March, marking the eighth consecutive monthly increase and lifting the index 28.0 points (23.5 percent) above its value a year ago. In April, the upward trend of dairy product prices continued, driven by the persistent global supply tightness, as milk output in Western Europe and Oceania continued to track below their seasonal levels. International quotations for butter rose the most, reflecting tight supplies, including low inventories, especially in Western Europe, amidst a surge in demand for near-term deliveries, partly induced by the current shortage of sunflower oil and margarine. Despite a decline in foreign purchases, sustained internal demand and low inventories in Europe provided support to world skim milk powder and cheese prices. By contrast, whole milk prices fell moderately, mainly due to a demand slowdown in China.

» The FAO Meat Price Index* averaged 121.9 points in April, up 2.7 points (2.2 percent) from March and setting a new record high. The continued price strength stemmed from higher world poultry, pig and bovine meat prices. The poultry meat price increase was driven by solid demand amidst tight global supplies, reflecting disruptions to exports from Ukraine and rising avian influenza outbreaks in the Northern hemisphere. Meanwhile, pig meat prices rose further, although less steeply than in March, on the prolonged low supply of slaughter pigs in Western Europe and high internal demand in large producing countries. World bovine meat prices increased moderately, reflecting high export volumes from Brazil, despite the low slaughter cattle supply. With this increase, bovine meat prices reached a new record high. Regarding ovine meat, the pandemic-related lockdowns and port delays in China eased the country's meat purchases, pushing prices marginally lower.

» The FAO Sugar Price Index averaged 121.8 points in April, up 3.9 points (3.3 percent) from March, marking the second consecutive monthly increase and reaching levels more than 20 percent above those registered in the corresponding month last year. Higher ethanol prices in Brazil, coupled with the sustained strengthening of the Brazilian Real against the US dollar, continued to underpin the increase in world sugar prices. Additional support was provided by concerns over the slow start of the 2022 harvest in Brazil. However, larger-than-previously-anticipated availabilities in India, a major sugar exporter, bolstered the global supply outlook and prevented more substantial price increases.

* Unlike for other commodity groups, most prices utilized in the calculation of the FAO Meat Price Index are not available when the FAO Food Price Index is computed and published; therefore, the value of the Meat Price Index for the most recent months is derived from a mixture of projected and observed prices. This can, at times, require significant revisions in the final value of the FAO Meat Price Index which could in turn influence the value of the FAO Food Price Index.



FAO food price index

		Food Price Index [1]	Meat [2]	Dairy [3]	Cereals [4]	Vegetables Oils [5]	Sugar [6]
2004		**65.6**	**67.6**	**69.8**	**64.0**	**69.6**	44.3
2005		**67.4**	**71.8**	**77.2**	**60.8**	**64.4**	61.2
2006		**72.6**	**70.5**	**73.1**	**71.2**	**70.5**	91.4
2007		**94.3**	**76.9**	**122.4**	**100.9**	**107.3**	62.4
2008		**117.5**	**90.2**	**132.3**	**137.6**	**141.1**	79.2
2009		**91.7**	**81.2**	**91.4**	**97.2**	**94.4**	112.2
2010		**106.7**	**91.0**	**111.9**	**107.5**	**122.0**	131.7
2011		**131.9**	**105.3**	**129.9**	**142.2**	**156.5**	160.9
2012		**122.8**	**105.0**	**111.7**	**137.4**	**138.3**	133.3
2013		**120.1**	**106.2**	**140.9**	**129.1**	**119.5**	109.5
2014		**115.0**	**112.2**	**130.2**	**115.8**	**110.6**	105.2
2015		**93.0**	**96.7**	**87.1**	**95.9**	**89.9**	83.2
2016		**91.9**	**91.0**	**82.6**	**88.3**	**99.4**	111.6
2017		**98.0**	**97.7**	**108.0**	**91.0**	**101.9**	99.1
2018		**95.9**	**94.9**	**107.3**	**100.8**	**87.8**	77.4
2019		**95.1**	**100.0**	**102.8**	**96.6**	**83.2**	78.6
2020		**98.1**	**95.5**	**101.8**	**103.1**	**99.4**	79.5
2021		**125.7**	**107.7**	**119.1**	**131.2**	**164.9**	109.3
2021	April	**122.1**	104.3	119.1	126.2	162.2	100.0
	May	**128.1**	107.4	121.1	133.7	174.9	106.8
	June	**125.3**	110.7	119.9	130.3	157.7	107.7
	July	**124.6**	114.1	116.7	126.3	155.5	109.6
	August	**128.0**	113.4	116.2	130.4	165.9	120.5
	September	**129.2**	112.7	118.1	132.8	168.6	121.2
	October	**133.2**	112.0	121.5	137.1	184.8	119.1
	November	**135.3**	112.5	126.0	141.4	184.6	120.2
	December	**133.7**	111.0	129.0	140.5	178.5	116.4
2022	January	**135.6**	112.1	132.6	140.6	185.9	112.7
	February	**141.1**	113.5	141.5	145.3	201.7	110.5
	March	**159.7**	119.3	145.8	170.1	251.8	117.9
	April	**158.5**	121.9	147.1	169.5	237.5	121.8

1 Food Price Index: Consists of the average of 5 commodity group price indices mentioned above, weighted with the average export shares of each of the groups for 2014-2016: in total 95 price quotations considered by FAO commodity specialists as representing the international prices of the food commodities are included in the overall index. Each sub-index is a weighted average of the price relatives of the commodities included in the group, with the base period price consisting of the averages for the years 2014-2016.

2 Meat Price Index: Based on 35 average export unit values/market prices of four meat types (bovine, pig, poultry and ovine) from 10 representative markets. Within each meat type, export unit values/prices are weighted by the trade shares of their respective markets, while the meat types are weighted by their average global export trade shares for 2014-2016. Quotations for the two most recent months may consist of estimates and be subject to revision.

3 Dairy Price Index: Computed using 8 price quotations of four dairy products (butter, cheese, SMP and WMP) from two representative markets. Within each dairy product, prices are weighted by the trade shares of their respective markets, while the dairy products are weighted by their average export shares for 2014-2016.

4 Cereals Price Index: Compiled using the International Grains Council (IGC) wheat price index (an average of 10 different wheat price quotations), the IGC maize price index (an average of 4 different maize price quotations), the IGC barley price index (an average of 5 different barley price quotations), 1 sorghum export quotation and the FAO All Rice Price Index. The FAO All Rice Price Index is based on 21 rice export quotations, combined into four groups consisting of Indica, Aromatic, Japonica and Glutinous rice varieties. Within each varietal group, a simple average of the relative prices of appropriate quotations is calculated; then the average relative prices of each of the four rice varieties are combined by weighting them with their (fixed) trade shares for 2014-2016. The Cereal Price Index combines the relative prices of sorghum, the IGC wheat, maize and barley price indices (re-based to 2014-2016) and the FAO All Rice Price Index by weighing each commodity with its average export trade share for 2014-2016.

5 Vegetable Oil Price Index: Consists of an average of 10 different oils weighted with average export trade shares of each oil product for 2014-2016.

6 Sugar Price Index: Index form of the International Sugar Agreement prices with 2014-2016 as base.

SAF GROUP

Dan Tsubouchi @Energy_Tidbits · 3h

Buckle up! if you think #Oil market is tight today, see what #Vitol's Head Asia @michaelwmuller says about the fall. "unless we see massive demand destruction from a recession ... the supply cushion from OPEC will be at a point which is alarming" same time as lower SPR 1/2 #OOTT

3 10 49

SAF GROUP

Dan Tsubouchi @Energy_Tidbits · 3h

2/2 "so naturally markets do what they do, they price in the fact that has to be replenished or there is the risk of an event as yet unforseen causing major shortages or rationing". Plus other great #Oil insights. see 👇 SAF transcript. Thx @michaelwmuller @sean_evers #OOTT

SAF Group created transcript of excerpts from comments by Sean Evers (Managing Partner, Gulf Intelligence) and Mike Muller (Head, Vitol Asia) on Gulf Intelligence Podcast: Daily Energy Markets – May 8th https://soundcloud.com/user-846530307/podcast-daily-energy-markets-may-8th

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

Evers. "*.. your outlook for OPEC+ at this point, what is their role in the market right now. they had a meeting last week. It seemed to be relatively irrelevant. Their current agreement expires in September, which is of course, just around the corner. How do you look to OPEC+ now and over the coming months of this year, and its relevance to the market?*"

Muller. "*Most of OPEC+ is maxed out. And one of the articles in your digest tied it up quite nicely. Nigeria has a quota of 1.7 something and is only producing about 1.4. Angola has a quota of 1.4 and their output is running at 1.1 or thereabouts. And these are largely assets that are operated by foreign companies in country. And these foreign companies of course, the supermajors, have been deploying their very very depleted capital over the past two years on other things. so this is the issue. one of [???] putting up the corporate results, Shell for example. It has been reporting season. I think it's grossly unfair for the market to be critical of these results. They are a consequence of price, both [??] pricing in the upstream, but more importantly, in terms of the margins available in the products sphere and very, very nice refining margins. And the oil majors or energy giants, shall we call them that, are fulfilling their promises to return money to shareholders by engaging in share buybacks. But those can now accelerate. And they're going to face the choice of deploying some of that P&L into resuming the spend, which has been woefully lacking in upstream production, or accelerating the turn away from fossil fuels into renewable, greenhouse gas addressing issues, energy transition. And my sense is a lot of the money is going to go into that direction to accelerate that deployment and therefore, leaves in the hands of others, namely national oil companies and private equity, the burden of restoring the investment not just in US shale but also some of the more challenging provinces. Because while some of those companies I mentioned find it unacceptable to say that peak oil is still ahead of us. I think the vast consensus amongst consultants, people that can afford to say so, is we are still seeing oil demand growth despite the high [???] in China. And there is a huge question mark on who is going to invest in the marginal oil field given the underlying decline is a pretty dramatic number if you don't invest in oilfields. And indeed the marginal refining capacity and look at what's [???] as well in order to satisfy peak demand, which in the opinion of those who can say so, is still ahead of us. So, a lot of concern there. In the eyes of OPEC, OPEC+, they will continue as set out, adding 400,000 or so barrels per day a month until the end of the agreement. But in reality, it's only those two or three countries that can still produce the extra – Saudi, the Emirates, and Kuwait. I guess. Iraq has its own challenges in terms of meeting their [???] production for technical reasons.*"

Evers "*... look to OPEC+ to continue to find consensus beyond September, is it relevant is ultimately my question?*"

Muller "*Unless we see massive demand destruction from a recession. Sorry Christof, I will be quick. Or high prices destroying demand and [???] the purchasing power, the supply/demand, the supply cushion from OPEC will be at a point which is alarming. It goes hand and hand then with a lower amount of strategic petroleum reserve, the SPR in [???] countries. So naturally markets do what they do. they price in the fact that has to be replenished or there is the risk of an event as yet unforeseen causing major shortages or rationing.*"

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

1 4 20

SAF GROUP

Dan Tsubouchi @Energy_Tidbits · 21h

#Vortexa crude #Oil floating storage for 05/07 est 95.39 mmb, -6.08 mmb WoW vs revised big up 101.47 mmb at 04/29. More revisions, not too surprising, coincides with timing RUS invasion of UA. Need to watch as looks like creeping up >100 mmb. Thx @Vortexa @TheTerminal #OOTT

Vortexa Crude Oil Floating Storage Estimated as of May 7 at noon MT

Source: Bloomberg, Vortexa

Est as of May 7, noon MT

FZWWFST VTXA Index 05/05/2019 - 05/06/2022

	Date	FZWWFST VT... Mid Px
Fr	05/06/2022	95392
Fr	04/29/2022	101.474k
Fr	04/22/2022	101.304k
Fr	04/15/2022	105.59k
Fr	04/08/2022	102.886k
Fr	04/01/2022	89972
Fr	03/25/2022	93433
Fr	03/18/2022	95012
Fr	03/11/2022	97174
Fr	03/04/2022	93921
Fr	02/25/2022	90235

Est as of Apr 30, 2pm MT

FZWWFST VTXA Index 04/28/2019 - 04/29/2022

	Date	FZWWFST VT... Mid Px
Fr	04/29/2022	88983
Fr	04/22/2022	99590
Fr	04/15/2022	103.672k
Fr	04/08/2022	100.027k
Fr	04/01/2022	88907
Fr	03/25/2022	92321
Fr	03/18/2022	93582
Fr	03/11/2022	97056
Fr	03/04/2022	94408
Fr	02/25/2022	91897
Fr	02/18/2022	85737

Est as of Apr 23, noon MT

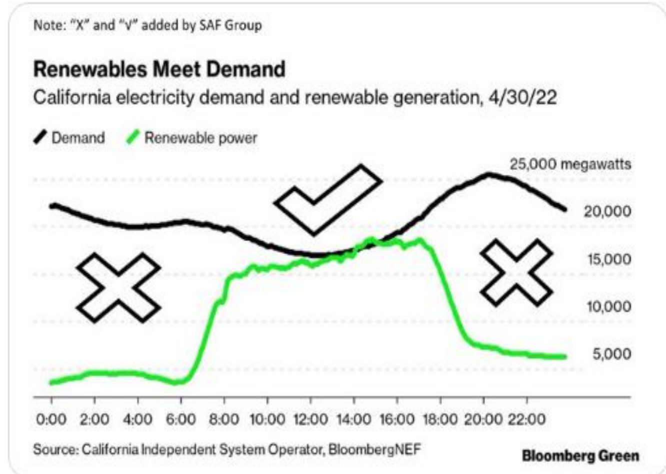
FZWWFST VTXA Index 04/21/2019 - 04/22/2022

	Date	FZWWFST VT... Mid Px
Fr	04/22/2022	101.958k
Fr	04/15/2022	107.1k
Fr	04/08/2022	103.317k
Fr	04/01/2022	92621
Fr	03/25/2022	97776
Fr	03/18/2022	98006
Fr	03/11/2022	102.976k
Fr	03/04/2022	99424
Fr	02/25/2022	97694
Fr	02/18/2022	91072
Fr	02/11/2022	102.693k

Source: Bloomberg, Vortexa

Dan Tsubouchi @Energy_Tidbits · May 7

CA warning on grid shortfall capacity for "this summer and beyond" reports @nicholagroom. It's a reality check. Just saw 04/30 #renewableenergy can meet 100% of CA demand for 4-6 hrs, but also leaves huge gap for rest of 24 hrs. Thx @climate for graph. #NatGas #OOTT



> Nichola Groom @nicholagroom · May 6
>
> California officials gave a sobering assessment of the state's power needs, saying climate change and supply chain issues have created a big shortfall reuters.com/world/us/calif...

Dan Tsubouchi @Energy_Tidbits · May 6

A huge logistical above ground transportation challenge 👇 is coming to move #CrudeOil to refineries supplied by Druzhba pipeline in CZ, DE, HU & SK. Plus added unloading,tankage capacity at ports to receive more #Oil barrels to move inland. No wonder HU wants $ billions. #OOTT

> Dan Tsubouchi @Energy_Tidbits · Mar 25
>
> Cutting RUS #Oil means #DE "is rushing to make complex plans to line up deliveries by sea, truck & trains" reports @ArneDelfs. Rail track capacity aside, can't believe there are enough of these lying around to bring oil from ports inland to the #Druzhba pipeline refineries? #OOTT

Dan Tsubouchi @Energy_Tidbits · May 6

SAF GROUP

India "advises" states to increase #ThermalCoal imports to ensure power supply. And "States would be responsible for any shortages & consequent power-shortages in their States". Also fits why have been seeing some added India #LNG cargos despite high LNG prices. #OOTT #natgas

https://pib.gov.in/PressReleasePage.aspx?PRID=1823164

Ministry of Power

Azadi Ka Amrit Mahotsav

STATUS OF IMPORT OF COAL FOR BLENDING IN THERMAL POWER PLANTS WITH STATES REVIEWED

SHRI R. K. SINGH ADVISES STATES TO PLACE ORDERS FOR COAL IMPORT

DOMESTIC COAL WOULD BE SUPPLIED TO ALL GENCOS IN PROPORTION TO THE COAL RECEIVED FROM COAL COMPANIES

TAMIL NADU AND MAHARASHTRA HAVE PLACED ORDERS FOR COAL IMPORT

PUNJAB AND GUJARAT ARE IN THE ADVANCED STAGE OF FINALISING TENDERS

STATES NEED TO TAKE ACTIONS TO ENSURE COAL SUPPLY TO POWER PLANTS BY ENSURING OFF-TAKE IN RAIL-CUM-ROAD (RCR) MODE: POWER MINISTER

Posted On: 06 MAY 2022 11:26AM by PIB Delhi

Shri. R.K. Singh, Union Minister of Power & NRE reviewed the status of import of coal for blending in the thermal power plants with the States. Secretary (Power) Shri Alok Kumar, Senior officials of the State Governments, and Gencos were present in the meeting held virtually yesterday. The Minister highlighted the importance of importing coal for blending in the thermal power plants, in view of the constraints in domestic coal supply to meet the increased demand. The states were advised to place orders for import of coal for blending purpose so that the additional coal reaches power plants from the month of May 2022 itself. Hon'ble Minister stated that the domestic coal would be supplied to all GENCOS in proportion to the coal received from coal companies. He further advised the States to increase the output from the captive mines to meet their coal requirements which will help in reducing the burden on the linkage coal. He emphasized that States need to take actions to ensure coal supply to their power plants by ensuring off-take in the Rail-cum-Road (RCR) mode to meet the shortfall in coal requirement at their power plants and stated that in the event of States not lifting the RCR coal it would be de-allocated and offered to other States and the concerned States would be responsible for any shortages and consequent power-shortages in their States.

As per the data presented by CEA in the meeting, it was noted that the States of Tamil Nadu and Maharashtra have placed orders for the import of coal, while Punjab and Gujarat are in the advanced stage of finalisation of the tenders; and the other States need to put extra efforts to import the coal for blending at their power plants in time. The States of Rajasthan, Madhya Pradesh are in the process of issuing the tenders. Haryana, Uttar Pradesh, West Bengal, Odisha and Jharkhand have not yet issued tender or taken any significant actions for the import of coal and were advised to take necessary actions to ensure coal supply to their power plants.

The Status of RCR was also deliberated upon and it was seen that the progress of Andhra Pradesh, Karnataka, Madhya Pradesh, West Bengal, Haryana and Uttar Pradesh on lifting the allotted coal was not satisfactory. These states were advised to expedite lifting this coal, failing which this RCR coal would be allocated to other GENCOS which need it.

Dan Tsubouchi @Energy_Tidbits · May 5

SAF GROUP

Bullish #NatGas #LNG."There is no way we [EU] can just bring more pipeline gas or bring more LNG & somehow replace all the Russian gas we currently consume. That is simply unfeasible" "have to go significantly into energy conservation matters & strategies" @VanBeurdenShell #OOTT

SAF Group created transcript of excerpts from Shell's Q1 call on May 5, 2022. Speakers were CEO Ben van Beurden, CFO Sinead Gorman and Integrated Gas, Renewables and Energy Solutions Director Wael Sawan. https://webcast.shell.com/live/7b36f0e4-3e52-437b-801d-10fa2d43ca67/public/

Items in "italics" are SAF Group created transcript

At 7:44am MT, Shell is asked about how quickly Europe can achieve energy independence. Shell CEO van Beurden replies. "*as you can imagine, we've been talking an awful lot with policymakers over the last few months at the highest levels in multiple countries, and I think my message consistently has been make sure you really understand what you are doing. It's not for us to say you know politically, this is appropriate or whatever else. What Europe needs to do needs to be decided by Europe's elected leadership. But we have been very clear to point out that these are the things that could be a consequence of that decision, or here are levers you can pull. Or if you want to pull this particular lever, please be mindful there are different ways in which you can pull it - a good way or a not so good way. What you will have seen so far, which I believe is probably objectively also true Europe I think has acted in a very measured way to the crisis. Of course for some, that is not enough, we should have done more in Europe and etc. but I do believe European leaders have acted in a very measured and controlled way. And that is partly also because they realize its very tough to go cold turkey on say Russian crude oil but even moreso on Russian gas. I think the measures that are now being talked about. Let's focus on the gas because crude in a way an easier story. The measures that are being talked about is can we bring more liquefaction or regasification capacity, also can we think of more pipeline supply from northern Africa, Scandinavian market, from Norway, I think they are sensible things to do. But it will inevitably also require an acceleration of the energy transition for the mid-term because there is now way we can just bring more pipeline gas or bring more LNG and somehow replace all the Russian gas we currently consume. That is simply unfeasible. And I think we have to go significantly into energy conservation matters and strategies.*"

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

Dan Tsubouchi @Energy_Tidbits · May 5

Buckle Up. Shell just asked if seeing demand destruction. No, "we see a continued increase in product demand around the world" "we definitely do not see a reduction in demand" "we also see by the way is a continued decrease in investment in supply" says @VanBeurdenShell. #OOTT

transcript of excerpts from Shell's Q1 call on May 5, 2022. Speakers were CEO Ben
l Integrated Gas, Renewables and Energy Solutions Director Wael Sawan.
ell.com/live/7b36f0e4-3e52-437b-801d-10fa2d43ca67/public/

e SAF Group created transcript

ll is asked if they are seeing demand destruction in their products. CEO van Beurde
mand is not that easily destroyed. That's one. Are we seeing it at the moment? No
ct, if you just look at the performance including in this year, we see a continued in
world. But we also see, by the way, is a continued decrease in investment in suppl
ll experiencing pricewise. But we definitely do not see a reduction in demand"

oup https://safgroup.ca/news-insights/

Dan Tsubouchi @Energy_Tidbits · May 5

As expected, #OPEC+ keeps to its schedule for +432,000 b/d in June. Will be viewed as likely no increase given many #OPEC+ countries don't have ability to increase and expected increasing hit to Russia oil exports. #OOTT

Organization of the
Petroleum Exporting Countries

https://www.opec.org/opec_web/en/press_room/6858.htm

28th OPEC and non-OPEC Ministerial Meeting

No 10/2022
Vienna, Austria
05 May 2022

Following the conclusion of the 28th OPEC and non-OPEC Ministerial Meeting, held via videoconference on 5th May, it was noted that continuing oil market fundamentals and the consensus on the outlook pointed to a balanced market. It further noted the continuing effects of geopolitical factors and issues related to the ongoing pandemic.

The OPEC and participating non-OPEC oil producing countries therefore decided to:

1. Reaffirm the decision of the 10th OPEC and non-OPEC Ministerial Meeting on 12th April 2020 and further endorsed in subsequent meetings, including the 19th OPEC and non-OPEC Ministerial Meeting on the 18th July 2021.
2. Reconfirm the production adjustment plan and the monthly production adjustment mechanism approved at the 19th OPEC and non-OPEC Ministerial Meeting and the decision to adjust upward the monthly overall production by 0.432 mb/d for the month of June 2022, as per the attached schedule.
3. Reiterate the critical importance of adhering to full conformity and to the compensation mechanism, taking advantage of the extension of the compensation period until the end of June 2022. Compensation plans should be submitted in accordance with the statement of the 15th OPEC and non-OPEC Ministerial Meeting.
4. Hold the 29th OPEC and non-OPEC Ministerial Meeting on 2 June 2022.

	June 2022 Required Production
Algeria	1023
Angola	1480
Congo	315
Eq.Guinea	123
Gabon	181
Iraq	4509
Kuwait	2724
Nigeria	1772
Saudi Arabia	10663
UAE	3075
Azerbaijan	696
Bahrain	199
Brunei	99
Kazakhstan	1655
Malaysia	577
Mexico	1753
Oman	855
Russia	10663
Sudan	73
South Sudan	126
OPEC 10	25864
Non-OPEC	16694
OPEC+	42558

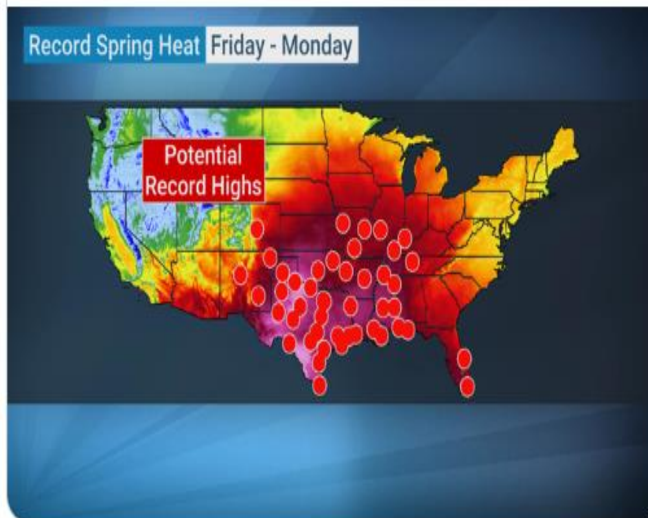
SAF

Dan Tsubouchi @Energy_Tidbits · May 5

Also some nice near term air conditioning demand for #NatGas. #OOTT

Weather Underground @wunderground · May 4

Spring, who🥵? A summer feel is on the way this weekend for many in the Deep South. Many record high temperatures in jeopardy of falling this weekend into next week.



SAF

Dan Tsubouchi @Energy_Tidbits · May 5

Looks like another quick #OPEC+ meeting and continuing on the scheduled +432,000 b/d increase for June. JMMC at 5am MT, full ministerial meeting at 5:30am MT. #OOTT

opec.org/opec_web/stati...

MEDIA ADVISORY

for the
40th Meeting of the Joint Ministerial Monitoring Committee
and the
28th OPEC and non-OPEC Ministerial Meeting

Thank you for your interest in covering the 40th Meeting of the Joint Ministerial Monitoring Committee (JMMC) and the 28th OPEC and non-OPEC Ministerial Meeting.

In light of the current restrictions and challenges related to the COVID-19 pandemic, please find below some timings that we hope you find useful.

1. The 40th JMMC Meeting is scheduled to take place on Thursday, 5 May 2022, at 13:00 (CEST) via videoconference.
2. On the same day, 5 May 2022, the 28th OPEC and non-OPEC Ministerial Meeting is slated to convene at 13:30 (CEST) via videoconference.

We thank you for your cooperation. If you have any further queries, please do not hesitate to contact Mr James Griffin (jgriffin@opec.org) or Mr Ayman Almusallam (aalmusallam@opec.org).

Dan Tsubouchi @Energy_Tidbits · May 4

#JCPOA. US says preparing equally for deal or no deal scenario. It's May,most had assumed deadline for a deal was a months ago, but @StateDeptSpox said still time to get to a deal. Still seems the #Biden doesn't want to kill a deal, but will he give in to get a deal? #OOTT

Department Press Briefing – May 4, 2022

NED PRICE, DEPARTMENT SPOKESPERSON
WASHINGTON, D.C.

MAY 4, 2022

QUESTION: Can we stay on Iran?
MR PRICE: Sure.

Dan Tsubouchi @Energy_Tidbits · May 4

"The last thing I'll say is none of this stuff is inexpensive, and sustainable aviation fuel today is not competitive with traditional aviation fuel from a cost standpoint" @Chevron CEO Wirth. #SAF needs more govt incentives. #EnergyTransition will cost big $$$. #OOTT

Chevron

First quarter 2022
earnings call

SAF Group created transcript of excerpts from Chevron's Q1/22 call on April 29, 2022.
https://event.webcasts.com/viewer/event.jsp?ei=1539309&tp_key=67fe52422c

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

Sustainable fuels are not competitive and don't work unless there are government incentives to make it work.

At 46:40 min mark, Mgmt was asked *"Another area you were generally bullish on was sustainable aviation fuel. You indicated that long-term you believe this is a big growth market. So can you help us understand since then and going forward, how does Chevron plan to build on its sustainable aviation fuel business?"* CEO Wirth replied *"obviously aviation demand is going to grow as we go forward and finding a solution is one of the hardest to decarbonize segments of the economy because you need to have high energy density for aviation fuel or planes can't carry much in terms of their cargo.*

So, it's an area of focus. In a traditional refinery, the distillate portion of the barrel you can move molecules from diesel to kerosene to jet fuel. And in the renewable diesel investments that we're making there's a certain flexibility that you have there as well. And so, we will have the ability to produce. In fact, we've already produced sustainably aviation fuel at El Segundo and we'll see more of that coming through some of our renewable diesel facilities. We have also began negotiations underway with some other companies that have different technologies, that wouldn't necessarily, be the same as what we would do in a refinery and so we're looking at alternate pathways, feedstock partnerships and pathways. You know this is all going to take time to come together, quality control is really important in aviation fuels, reliability of supply is really important.

And as we introduce new feedstocks, new technology pathways you have to be really diligent in ensuring that the fuel that you ultimately produce and sell is going to perform in the engines that it's going to be consumed into. The last thing I'll say is none of this stuff is inexpensive, and sustainable aviation fuel today is not competitive with traditional aviation fuel from a cost standpoint. There has been some talk in Washington about various policy incentives that could be put into place to encourage more sustainable aviation fuel. There's a letter that was published by a whole host of people, airlines and others just in the last week or so calling for action.

And I think, to see this scale we got to keep working on technology and feedstocks, but it's likely that some sort of policy incentives will be part of the equation in order to see more capital drawn into sustainable aviation fuel."

Prepared by SAF Group

SAF

Dan Tsubouchi @Energy_Tidbits · May 4 ···

For those not near their laptop, @EIAgov weekly #Oil #Gasoline #Distillates inventory data as of April 29 just out. Prior to release, WTI was $106.39. #OOTT

ir.eia.gov/wpsr/overview....

ventory April 29: EIA, Bloomberg Survey Expectations, A

	EIA	Expectations
	1.30	-0.60
	-2.23	-0.80
	-2.34	-1.39
	-3.27	-2.79

nercial so builds in impact of 3.1 mmb draw from SPR for Apr

ı the oil data, Cushing had a build of 1.38 mmb for Apr 29 wee

omberg

F Group https://safgroup.ca/news-insights/

SAF

Dan Tsubouchi @Energy_Tidbits · May 4 ···

Brent #Oil +$4. "This is why we will phase out Russian supply of crude oil within six months and refined products by the end of the year" @vonderleyen on EU's latest sanctions on RUS. #OOTT

SAF Group created transcript of excerpts from EU President Ursula von der Leyen's address to EC on May 4, 2022. https://twitter.com/vonderleyen/status/1521785907745021953

Items in "Italics" are SAF Group created transcript

Von der Leyen "*Today, we are addressing our dependency on Russian oil and let's be clear, it will not be easy. Because some member states are strongly dependent on Russian oil. But we simply have to do it. So today we will propose to ban all Russian oil from Europe. We will make sure that we phase out Russian oil in an orderly fashion. This is why we will phase out Russian supply of crude oil within six months and refined products by the end of the year. Thus, we maximize the pressure on Russia while at the same time, and this is important, we minimize the collateral damage to us and our partners around the globe. Because to help Ukraine, we have to make sure that our economy remains strong*"

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

Dan Tsubouchi @Energy_Tidbits · May 3

Reminder of higher returns from #Oil #NatGas #LNG vs lower returns from low carbon. @exxonmobil CEO Woods "In addition to investing in high-value opportunities in our existing businesses, we are also advancing opportunities in our Low Carbon Solutions business." #OOTT

: ExxonMobil transcript for Q1/22 call on April 29. https://corporate.exxonmobil /Global/Files/investor-relations/quarterly-earnings/presentation-materials/202 :ation-materials/earnings-prepared-remarks-1q.pdf

ition to investing in high-value opportunities in our existing businesses, we are a ing opportunities in our Low Carbon Solutions business" said ExxonMobil CEO Da in his opening remarks.

Dan Tsubouchi @Energy_Tidbits · May 3

BP sees #Oil prices staying strong for the "years ahead". @andrewrsorkin just asked @bp_plc CEO Looney what specific WTI oil price does BP use. Looney wouldn't give specific price but says all signs point to the price [of WTI] being strong in the months and years ahead. #OOTT

Dan Tsubouchi @Energy_Tidbits · May 2

Common sense explanation why its a very bumpy road ahead for #EnergyTransition and why #Oil & #NatGas are looking great for 2020s. Thx @NOVGlobal CEO Williams for perspective from someone who helps ensure there is reliable energy for the world. Definitely worth the read. #OOTT

Dan Tsubouchi @Energy_Tidbits · May 2

Oil theme today is China near term economy concernts. Negative outlook from Fri night Caixin PMI, & Sat major cities covid testing requirements. Here is what we wrote in yesterday's SAF Group Energy Tidbits memo. #OOTT safgroup.ca/news-insights/

Excepts SAF Group May 1, 2022 Energy Tidbits Memo

Oil – Caixin PMI for Apr is down at 46.0, after last month at 48.1
No surprise given the expanded lockdowns in China, China manufacturers continue to be hit even harder On Friday evening, we tweeted [LINK] on the just released Caixin China Manufacturing PMI data for April. We tweeted "*China Caixin PMI for Apr 46.0 vs Est 48.0 (#Reuters) & Mar 48.1. "The figure pointed to a second successive monthly deterioration in overall business conditions faced by Chinese manufacturers, and one that was the quickest since February 2020". Thx @IHSMarkitPMI #OOTT.*" IHS highlighted "*A further tightening of COVID-19 restrictions in China led to notably quicker falls in both output and new business at the start of the second quarter. Increased supply chain disruption meanwhile drove the second-fastest deterioration in average vendor performance on record. Softer demand conditions resulted in more marked falls in both purchasing activity and stocks of purchases. Inflationary pressures persisted, with the rate of input cost inflation exceeding that seen for selling prices, as efforts to stimulate sales restricted firms' pricing power. Business confidence towards the 12-month outlook for output remained relatively subdued.*" Our Supplement Documents package includes the Caixin release. [LINK]

Oil – China's big cities set Covid testing requirements for public venue, transportation
It's hard not to believe it will be awhile before we see China's economy back humming. China's major cities are all moving to testing requirements for public venues, transportation, etc. If there are going to be testing requirements, how can this not impact day to day life and the economy even if it isn't a "lockdown"? Earlier this morning, we tweeted [LINK] "*Continued pressure on China economy (#Oil, #NatGas demand) from Covid. want to balance covid control & economic growth by having major Chinese cities (ie, Beijing, Shanghai, Guangzhou, Shenzhen, etc) w/ new covid testing guidelines & proof for public venues, transport, etc" #OOTT*". Yesterday, Global Times (China state media) reported [LINK] "*In order to execute the "Dynamic zero-COVID" policy and effectively curb the risk of the Omicron variant, multiple Chinese metropolises including Beijing, Shanghai, Guangzhou and Shenzhen have issued new guidelines to normalize nucleic acid testing, while require proof of a negative test result for tourists and local residents in public venues and transport systems.*" And "*But since the Omicron variant is highly infectious, the normalization of nucleic acid testing will prove to be a measure to at least normalize or recover passenger transportation in the country amid the ongoing epidemic, and also to minimize impact on China's economy which has shown signs of a marked slowdown.*" Our Supplemental Documents package includes the Global Times report.

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

Dan Tsubouchi @Energy_Tidbits · May 2

Must read. No political speak here. Saudi says US relationship is in the downs since #Biden election. Also US #Oil problems are is "because of its energy policy" Biden made it a policy "to cut all links to what is called the oil and gas industry .." #OOTT

arabnews.com
Frankly Speaking: Saudis feel let down by America, says Prince Turki
JEDDAH: Saudis feel let down at a time when they believe the US and Saudi Arabia should be together facing threats to the stability and ...

Dan Tsubouchi @Energy_Tidbits · May 2

No choice but to give exemptions if EU wants an EU deal to ban Russian #Oil imports. Otherwise it will be vetoed. #OOTT

reuters.com

EU may offer Hungary, Slovakia exemptions from Russian oil embargo

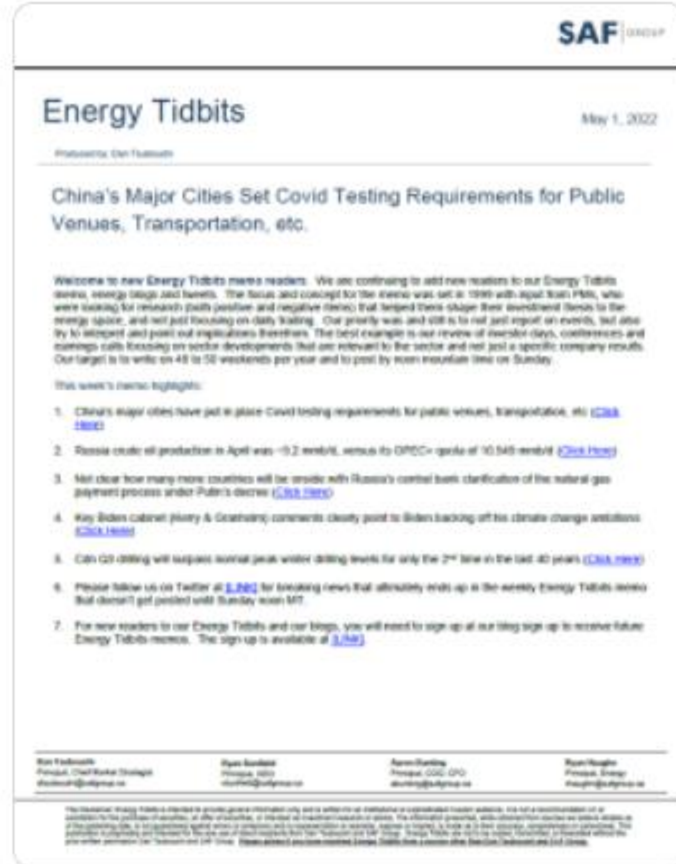
The European Commission may spare Hungary and Slovakia from an embargo on buying Russian oil, now under preparation, wary of how ...

Dan Tsubouchi @Energy_Tidbits · May 1

Does @TCEnergy's LNG forecast graph incl #LNGCanada Phase 2 in late 2020s? $TRP says it's a great opportunity for LNG Canada, sees NAM LNG exports growth >11 bcfd to 2030, but contractually can't say what might be "market sensitive information". #OOTT #NatGas

Dan Tsubouchi @Energy_Tidbits · May 1

Our weekly SAF May 1, 2022 Energy Tidbits memo is posted on our SAF Group website. This 44-pg energy research memo expands upon & covers more items than tweeted this week. See news/insights section of SAF website #Oil #OOTT #LNG #NatGas #EnergyTransition safgroup.ca/news-insights/



SAF

Energy Tidbits

May 1, 2022

China's Major Cities Set Covid Testing Requirements for Public Venues, Transportation, etc.

2 4 6