Energy Tidbits

Libya NOC Declares Force Majeure at ~160,000 b/d Melitah Export Port, Have To Expect More Force Majeures to Come

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Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The April *Short-Term Energy Outlook* (STEO) is subject to heightened levels of uncertainty resulting from a variety of factors, including Russia's further invasion of Ukraine. This STEO assumes U.S. GDP will grow by 3.4% in 2022 and by 3.1% in 2023, following growth of 5.7% in 2021. We use the S&P Global macroeconomic model to generate our U.S. economic assumptions. Global macroeconomic assumptions in our forecast are from Oxford Economics and include global GDP growth of 4.0% in 2022 and 3.7% in 2023, compared with growth of 6.0% in 2021. A wide range of potential macroeconomic outcomes could significantly affect energy markets during the forecast period. Energy supply uncertainty results from the conflict in Ukraine, the production decisions of OPEC+, and the rate at which U.S. oil and natural gas producers increase drilling.

- The Brent crude oil spot price averaged $117 per barrel (b) in March, a $20/b increase from February. Crude oil prices increased following the further invasion of Ukraine by Russia. Sanctions on Russia and other actions contributed to falling oil production in Russia and created significant market uncertainties about the potential for further oil supply disruptions. These events occurred against a backdrop of low oil inventories and persistent upward oil price pressures. Global oil inventory draws averaged 1.7 million barrels per day (b/d) from the third quarter of 2020 (3Q20) through the end of 2021. We estimate that commercial oil inventories in the OECD ended 1Q22 at 2.61 billion barrels, up slightly from February, which was the lowest level since April 2014.

- We expect the Brent price will average $108/b in 2Q22 and $102/b in the second half of 2022 (2H22). We expect the average price to fall to $93/b in 2023. However, this price forecast is highly uncertain. Actual price outcomes will depend on the degree to which existing sanctions imposed on Russia, any potential future sanctions, and independent corporate actions affect Russia's oil production or the sale of Russia's oil in the global market. In addition, the degree to which other oil producers respond to current oil prices, as well as the effects macroeconomic developments might have on global oil demand, will be important for oil price formation in the coming months. Although we reduced Russia's oil production in our forecast, we still expect that global oil inventories will build at an average rate of 0.5 million b/d from 2Q22 through the end of 2023, which we expect will put downward pressure on crude oil prices. However, if production

Note: EIA completed modeling and analysis for this report on Thursday, April 7, 2022

disruptions—in Russia or elsewhere—are more than we forecast, the resulting crude oil prices would be higher than our current forecast.

- We estimate that 98.3 million b/d of petroleum and liquid fuels was consumed globally in March 2022, an increase of 2.4 million b/d from March 2021. We forecast that global consumption of petroleum and liquid fuels will average 99.8 million b/d for all of 2022, which is a 2.4 million b/d increase from 2021. However, this forecast is down by 0.8 million b/d from last month's forecast as a result of downward revisions to global GDP growth from Oxford Economics. We forecast that global consumption of petroleum and liquid fuels will rise by 1.9 million b/d in 2023 to average 101.7 million b/d. The outlook for economic growth and oil consumption in Russia and surrounding countries continues to be highly uncertain.

- We are publishing the *Summer Fuels Outlook* as a supplement to this STEO. We expect U.S. prices for retail gasoline will average $3.84 per gallon (gal) this summer (April–September), which would be up from $3.06/gal last summer and the highest price (adjusted for inflation) since the summer of 2014. Retail diesel prices for the summer average $4.57/gal in the forecast, which would also be the highest inflation-adjusted price for the summer since 2014.

- U.S. crude oil production in the forecast averages 12.0 million b/d in 2022, up 0.8 million b/d from 2021. We forecast production to increase another 0.9 million b/d in 2023 to average almost 13.0 million b/d, surpassing the previous annual average record of 12.3 million b/d set in 2019.

Natural Gas

- In March, the Henry Hub natural gas spot price averaged $4.90 per million British thermal units (MMBtu), which was up from the February average of $4.69/MMBtu, as inventory withdrawals slightly outpaced the five-year (2017–2021) average. We expect liquefied natural gas (LNG) exports will increase from March levels, contributing to a Henry Hub price of $5.95/MMBtu for April. We expect the Henry Hub price will average $5.68/MMBtu in 2Q22 and $5.23/MMBtu for all of 2022. We expect the Henry Hub spot price will average $4.01/MMBtu in 2023. The forecast drop in prices for 2023 reflects our expectation that storage levels will be higher during 2023 than in 2022.

- We estimate that natural gas inventories ended March at 1.4 trillion cubic feet (Tcf), which is 17% below the five-year (2017–2021) average. Inventory withdrawals in March were 203 billion cubic feet (Bcf), resulting from relatively flat production and rising natural gas exports. We expect natural gas inventories to increase by 245 Bcf in April, as the injection season begins, ending the month at about almost 1.7 Tcf, which would be 14% below the five-year average for this time of year. We forecast that natural gas

inventories will end the 2022 injection season (end of October) at 3.5 Tcf, which is 4% below the five-year average.

- In March, U.S. LNG exports averaged 11.9 billion cubic feet per day (Bcf/d), an increase of 0.7 Bcf/d from February. LNG prices in Europe remain high amid supply uncertainties due to Russia's further invasion of Ukraine and the need to replenish Europe's natural gas inventories, which has kept Europe's demand for LNG elevated. Inventories in Europe were 26% full as of March 31, compared with the five-year average of 34%. We expect high levels of U.S. LNG exports to continue in 2022, averaging 12.2 Bcf/d for the year, a 25% increase from 2021.

- We expect that U.S. consumption of natural gas will average 84.1 Bcf/d in 2022, up 1% from 2021. The increase in U.S. natural gas consumption is a result of colder forecast temperatures in 2022 compared with 2021, which results in more consumption in the residential and commercial sectors. In addition, we expect the industrial sector to consume more natural gas in 2022 in response to expanding economic activity. We expect U.S. natural gas consumption will average 84.7 Bcf/d in 2023.

- We estimate dry natural gas production averaged 96.2 Bcf/d in the United States in March, up 1.2 Bcf/d from February. Similar to January and February, production in March was lower than in December because of brief periods of freezing temperatures in certain production regions and, in part, because of maintenance, according to public sources. We forecast dry natural gas production to average 96.9 Bcf/d in April. For all of 2022, we expect that dry natural gas production will average 97.4 Bcf/d, which would be 3.8 Bcf/d more than in 2021. We expect dry natural gas production to average of 100.9 Bcf/d in 2023.

Electricity, coal, renewables, and emissions

- We forecast that the annual share of U.S. electricity generation from renewable energy sources will rise from 20% in 2021, to 22% in 2022, and to 23% in 2023, as a result of continuing increases in solar and wind generating capacity. This increase in renewable generation leads to a decline in natural gas generation, which falls from a 37% share in 2021 to 35% in both 2022 and 2023. Natural gas generation falls in the forecast even though we expect the cost of natural gas for power generation to fall from an average of $5.85/MMBtu in 2Q22 to an annual average of $4.21/MMBtu in 2023. Although new natural gas-fired power generating units are scheduled to come online in 2022, they are likely to be run at lower utilization rates than in recent years. Increasing renewable generation also contributes to our forecast that the share of generation from coal will fall from 23% in both 2021 and 2022 to 21% by 2023. A major contributor to coal's declining generation share next year will be the retirement of coal-fired generating capacity during 2022. Nuclear generation remains relatively constant in the forecast at an average share of 20%. Although one nuclear reactor will be retired during 2022, that

loss will be offset by the opening of one new 1.1 GW reactor late in 2022, which will be the first new nuclear reactor to open in the United States since 2016.

- Planned additions to U.S. wind and solar capacity in 2022 and 2023 increase electricity generation from those sources in our forecast. We estimate that the U.S. electric power sector added 14 gigawatts (GW) of new wind capacity in 2021. We expect 10 GW of new wind capacity will come online in 2022 and 4 GW in 2023. Utility-scale solar capacity rose by 13 GW in 2021. Our forecast for added utility-scale solar capacity is 20 GW for 2022 and 24 GW for 2023. We expect solar additions to account for nearly half of new electric generating capacity in 2022. In addition, in 2021 small-scale solar increased by 5 GW to a total of 33 GW. We expect small-scale solar capacity (systems less than 1 megawatt) will grow by 4 GW in 2022 and by almost 6 GW in 2023.

- U.S. coal production in the forecast increases by 43 million short tons (MMst) (7%) in 2022 to 621 MMst and increases by 12 MMSt (2%) in 2023. We expect production in the Western region to drive the increases. Additional coal production will help refill electric sector inventories that were depleted during 2021.

- We expect U.S. coal consumption to increase by 14 MMst in 2022 and then decrease by 32 MMst in 2023 due to natural gas prices that are currently high, but which we expect will decline through the forecast. We expect coke plant consumption to fall by 10% in 2022 but increase next year back to 2021 levels.

- Coal exports in our forecast total 89 MMst in 2022, up 4% from 2021. We assume international prices will continue to drive increasing U.S. coal exports as the conflict in Ukraine creates the potential to disrupt supplies from Russia. However, exports to Asia, and particularly China, which supported U.S. coal exports in 2021 have slowed in 1Q22. We also assume transportation and terminal capacity constraints will limit exports in the forecast.

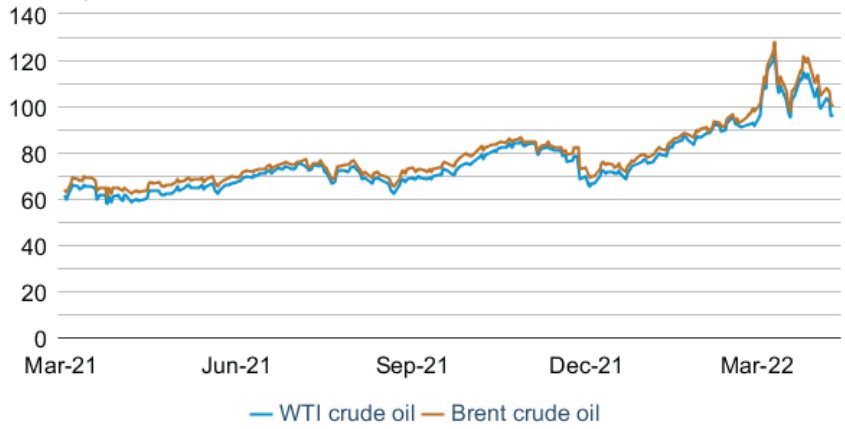
- U.S. energy-related carbon dioxide (CO_2) emissions increased by more than 6% in 2021 as economic activity increased and contributed to rising energy use. We expect a 2% increase in energy-related CO_2 emissions in 2022, primarily from growing transportation-related petroleum consumption. Forecast energy-related CO_2 emissions remain almost unchanged in 2023. We expect petroleum emissions to increase by 4% in 2022 compared with 2021, though this growth rate slows to less than 1% in 2023. Natural gas emissions are relatively flat in 2022 and then increase by 2% in our forecast for 2023. We forecast that coal-related CO_2 emissions will grow by 3% in 2022 and then fall 6% in 2023.

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $100.58 per barrel (b) on April 7, 2022, a decrease of $4.39/b from the March 1, 2022, price of $104.97/b. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, decreased by $7.38/b during the same period, settling at $96.03/b on April 7 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



Source: Based on CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

Crude oil prices in March were subject to a wide range of price pressures and sustained price volatility throughout most of the month. Russia's further invasion of Ukraine, which began on February 24—as well as trade disruptions, sanctions, and private sector divestments from doing business in Russia—continued to contribute to substantial uncertainty in petroleum markets during March. The conflict in Ukraine increased crude oil prices to over $100/b in late February, and the Brent crude oil price closed above $100/b for all but two trading days in March. On March 8, the United States government announced a ban on petroleum imports from Russia, further contributing to temporary price increases associated with trade displacement. In addition to western sanctions and the U.S. import ban, weather-related disruptions at Kazakhstan's Caspian Pipeline Consortium (CPC) terminal along Russia's Black Sea Coast, as well as a fire related to a Houthi missile attack at a Saudi Aramco oil storage and distribution facility in Jeddah, contributed to additional volatility and risk of supply disruptions. On March 31, the White House announced a release of 1 million barrels of crude oil per day for a period of six months from the U.S. Strategic Petroleum Reserve (SPR) to expand supply and ease pressure on prices. On April 7, the International Energy Agency (IEA) confirmed an additional coordinated release. These releases from strategic reserves have contributed to downward oil price pressure by offsetting market perceptions of the risk of supply disruptions.

In addition to substantial supply-side uncertainty in March, city-scale mobility restrictions in China related to surging cases of COVID-19 contributed to heightened demand-side risks and downward pressure on crude oil prices during the month. Reports of restrictions began in early March, notably in the Jilin province and major industrial city of Shenzhen. On March 28, restrictions were announced in Shanghai and were extended on an indefinite basis on April 4.

Although front-month oil futures prices in early April have fallen from their early March levels, monthly average crude oil prices in March increased substantially over February. The average Brent front-month futures price in March 2022 was $112/b, an increase of $18/b (20%) over February 2022 and $47/b (71%) over March 2021. The Brent crude oil price in March closed at a monthly high of $128/b on March 8, and WTI also closed at a high of almost $124/b on the same day.

We lowered our outlooks for both global oil production and consumption in this STEO compared with last month's forecast. Lower expected oil production is primarily driven by reduced expectations of petroleum production in Russia, while lower expected consumption reflects reduced expectations of economic growth and associated fuels demand, as well as the impact of present COVID-19 responses in China. Despite the lower forecast for oil consumption, we continue to expect consumption to increase going into the summer. We forecast that rising consumption, falling oil production in Russia, and the risk of supply outages amid low global inventory levels will support crude oil prices in the coming months. However, we expect the release of strategic reserves by the United States and the IEA will limit upward price pressures. We forecast the Brent crude oil price in the second quarter (2Q22) will average $108/b before decreasing to $104/b in the 3Q22 and $101/b in 4Q22. Although we forecast Russia's oil production will decline by 1.7 million b/d from February 2022 to the end of 2023, global oil production will nonetheless increase as a result of higher production elsewhere, mostly from the United States and OPEC. We forecast that increasing production will be sufficient to contribute to net global builds in total petroleum inventories in 2Q22, and we expect global inventory to continue to build on a quarterly basis through the end of 2023. Significant sources of uncertainty in our forecast include:

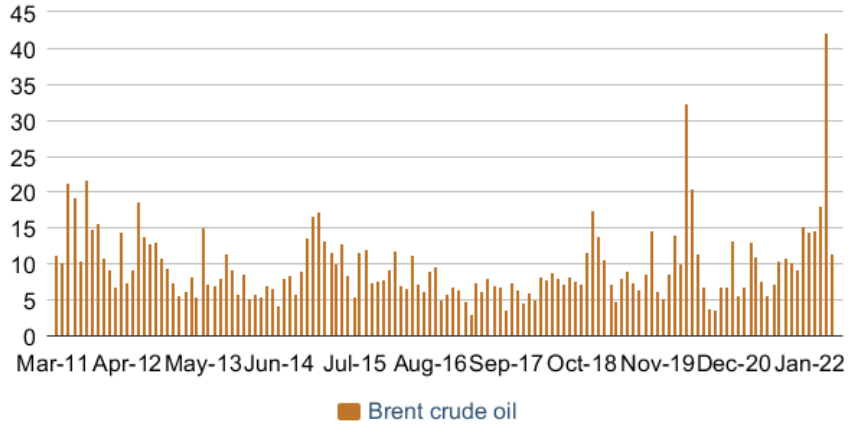
- Uncertainty related to geopolitical developments between Russia and Ukraine, the way in which existing sanctions on Russia will affect its oil production, and potential additional U.S. and EU sanctions on Russia
- The pace of oil demand growth in the summer
- The volume of new crude oil production at current price levels
- The potential for demand destruction because of high retail prices for petroleum products

Brent crude oil price trading range: The monthly price trading range for front-month Brent crude oil futures in March was $42/b, which was 38% of the monthly average price of $112/b

(Figure 2). This trading range is the widest since April 2020 in percentage terms, when the range averaged 77% of the monthly average price of $27/b. In March and April 2020, the market experienced significant price volatility from the initial effects of the COVID-19 pandemic. The wide price range is one measure of substantial volatility in the market, reflecting rapid changes in crude oil prices and heightened sensitivity to new market information. Several factors contributed to the wide swings in price within March, including:

- The competing pressures of trade displacement associated with sanctions on Russia and related divestments
- The impact of new mobility restrictions in China
- The announced SPR release
- Ongoing sources of uncertainty on future COVID-19 developments
- Additional geopolitical risks related to Iran and Libya

Figure 2. Monthly Brent crude oil price trading ranges



Source: Based on data from CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.

Brent futures strips: Energy market participants typically look at futures contracts in the form of futures strips to compare the price of crude oil over time. Crude oil futures strips show the sequential delivery of future contracts over a 24-month period. In the past six weeks, increased volatility in the Brent crude oil price has led to substantially different prices throughout the crude oil futures price strip **(Figure 3)**. On February 17, before the start of Russia's further invasion into Ukraine, the front-month Brent future price was $92.97/b, and the price for delivery two years in the future was trading below $80/b. By March 8, when prices reached their most recent peak, the front-month price was $127.98/b, and the price for crude oil delivery in August 2023 increased to $92.90/b. Backwardation, the condition in futures markets where

near-term prices are higher than longer-dated ones, increased to $30.90/b for the one-year ahead price spread between the front-month contracts and 13th-month contracts (1–13).

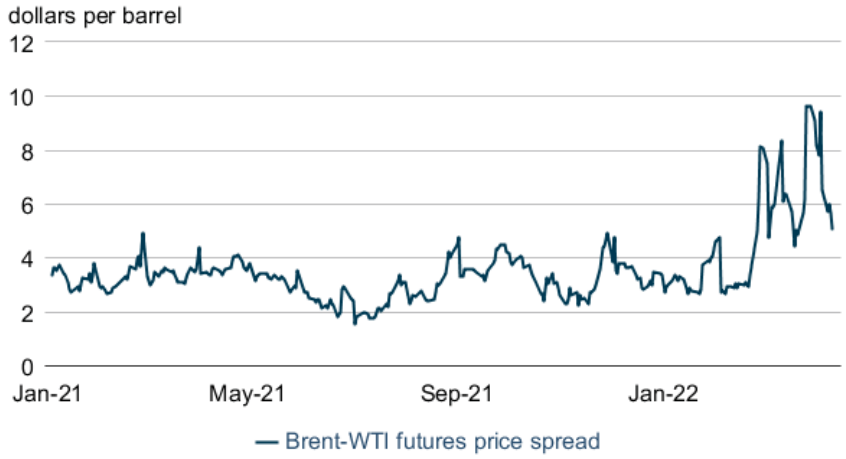
Figure 3. Brent crude oil futures price curves

eia Source: Based on data from CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.

On April 7, backwardation decreased with the front-month price at $100.58/b and the 1–13 price spread at $8.54/b, less than the 1–13 spread on February 17 of $11.67/b. Although shorter-term contract prices have decreased, which may be related to the recently announced release of expanded crude oil supply from the SPR, longer-term futures prices remain elevated. Prices do not fall below $80/b for crude oil delivery through the next two years, indicating a tighter crude oil market in the long term. A higher price for long-dated Brent crude oil could be the result of market uncertainty around future Russian crude oil production and availability.

Crude oil price differentials: Sharp widening in the differentials between Brent crude oil and WTI crude oil likely reflects the effects of current market risks and disruptions from European markets compared with markets in the Western Hemisphere. This regional price spread is reflected in both spot market and front-month futures prices. After increasing sharply in late February, the front-month futures spread between Brent and WTI increased to a monthly average of $6.83/b in March; its highest point since June 2019 **(Figure 4)**. As of April 7, the spread was $5.07/b. We forecast the Brent-WTI spot price spread will average $6.00/b in April and May before declining to $5.50/b by July 2022. Brent crude oil and WTI crude oil are both light, sweet crude oil grades, meaning they have low sulfur contents and relatively high API gravity.

Figure 4. Brent–WTI futures price spread

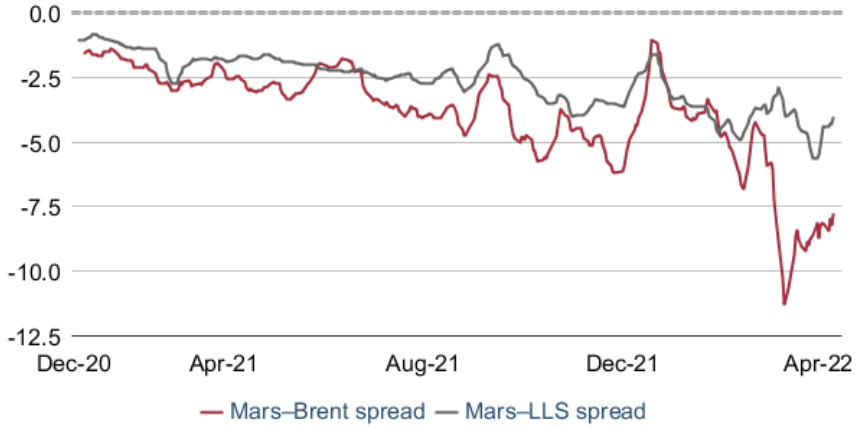


Source: Based on data from Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: WTI=West Texas Intermediate

The impacts of recent market uncertainty have also affected the spread between Brent crude oil and other North American grades. The price differentials between the Mars crude oil spot price and the Brent spot price continued to widen in March 2022 **(Figure 5)**. Mars is a medium, sour crude oil grade with an API gravity of 28.0 and a sulfur content of 1.93%, in contrast to Brent with an API gravity of 37.9 and a sulfur content of 0.45%. Medium and heavy grades, as well as sour grades, typically sell at a discount to light, sweet grades because they require more complex refining units to produce profitable yields of higher quality refined products such as gasoline or distillate fuel oil. However, the relative value of this discount varies according to market conditions and can reflect relative scarcity of certain grades. In addition to the difference in crude oil quality, the Mars-Brent differential also reflects geographic disparities, similar to the Brent-WTI differential. The Mars-Brent spread averaged -$8.98/b in March, and the five-day moving average was -$7.83/b on April 7.

Figure 5. Mars crude oil price spreads

dollars per barrel, five-day moving average



Source: Based on data from CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.
Note: LLS=Light Louisiana Sweet.

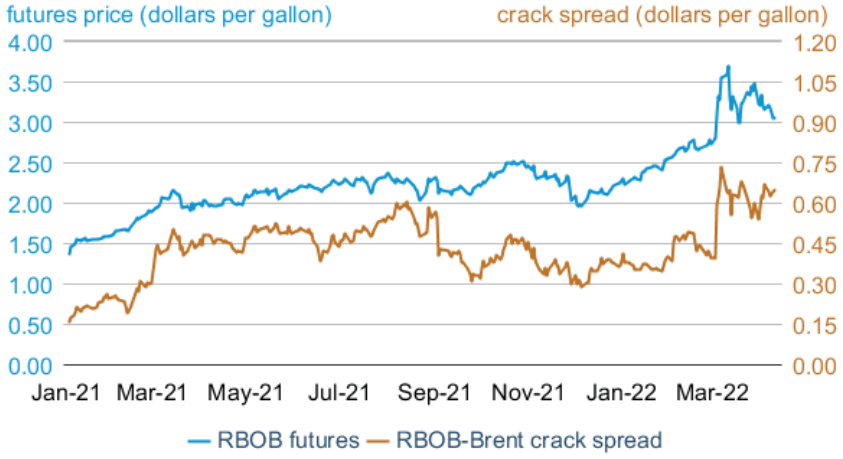
Unlike Brent, the Light Louisiana Sweet (LLS) benchmark is priced at the U.S. Gulf Coast, but similar to Brent and WTI, it is a light, sweet crude oil. The Mars-LLS spread averaged -$4.32/b in March, and the five-day moving average was -$4.11/b on April 7. The wide Mars-LLS spread reflects an increasing price premium for LLS based on its crude oil quality over Mars because both grades are priced at the U.S. Gulf Coast spot market and reflect market conditions for U.S. Gulf Coast refiners. Although not as wide as the Mars-Brent spread, the wide Mars-LLS differential suggests an increasing premium on light, sweet crude oil grades, or conversely, an increasing discount on medium, sour crude oil grades.

Mars is a U.S. benchmark grade but is also relatively similar in terms of quality to Russia's Urals grade, another medium, sour crude oil. Urals is the most exported Russian crude oil grade and has been subject to the most disruption in response to the sanctions levied on Russia. As Russia's crude oil production and exports decrease, it may contribute to rising medium, sour crude oil prices as volumes of Urals are taken off the market. However, the current width in the Mars-LLS spread suggests that a reduction in Russia's exports to the global market may not be currently reflected in the crude oil quality price spread at the U.S. Gulf Coast. One potential explanation may be that because Urals is forced to sell at a substantial discount to global benchmarks, the Urals discount may be putting downward pressure on other global medium, sour crude oil prices. As many buyers distance themselves from Russian purchases, buyers are still willing and able to buy discounted Urals, while non-Russian medium, sour crude oil grades may be experiencing some pressure on prices to remain competitive with Urals in certain markets. Alternatively, the widening Mars-LLS differential may not yet reflect reduced global supplies of medium, sour crude oil because of the distance from European markets or general market volatility.

Petroleum products

Gasoline prices: The front-month futures price of RBOB (the petroleum component of gasoline used in many parts of the country) settled at $3.04 per gallon (gal) on April 7, down 5 cents/gal from March 1 **(Figure 6)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) settled at 65 cents/gal on April 7, up 6 cents/gal during the same period. The average RBOB–Brent crack spread in March was 62 cents/gal, 17 cents/gal higher than February.

Figure 6. Historical RBOB front-month futures prices and crack spreads



Source: Based on data from CME Group, as compiled by Bloomberg L.P.
Note: RBOB is the petroleum component of gasoline used in many parts of the country.

Increases in RBOB prices and the crack spread reflect rapidly increasing crude oil prices and reduced Russian petroleum products trade in the international market. Prices and crack spreads also increased as a result of the seasonal shift to producing more expensive summer-grade gasoline. Over a five-day period from February 28 to March 4, the crack spread increased by 34 cents/gal and closed on March 4 at 73 cents/gal. Since March 4, the crack spread has not fallen below 54 cents/gal. On March 8, RBOB prices settled at $3.68/gal. The average RBOB price in March was $3.30/gal.

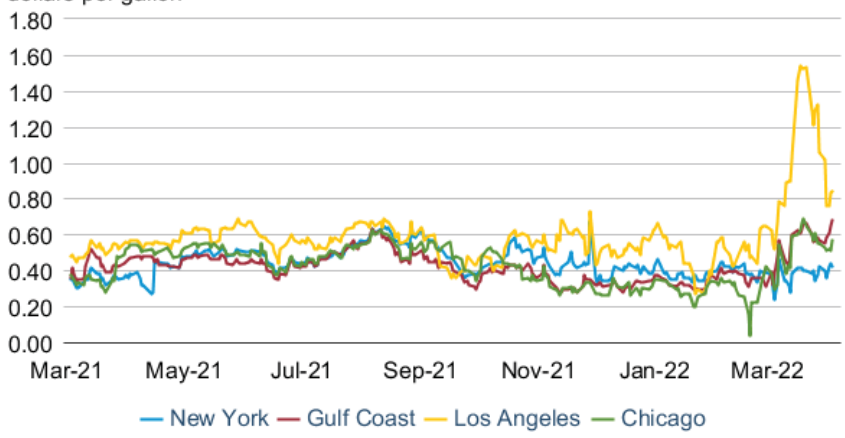
We estimate U.S. gasoline consumption averaged 8.6 million barrels a day (b/d) in March, which is 0.7 million b/d (7%) lower than the 2015–19 average and slightly higher than in March 2021. We expect vehicle miles traveled to increase by 1 billion miles per day (12%) between March and July as the summer travel season begins. We estimate gasoline inventories decreased by 7.8 million barrels in March and were 2.6% below the five-year (2017–2021) average. However, expected production increases in response to higher crack spreads suggest U.S. inventories will increase above the five-year average by June and remain above average for the rest of 2022.

West Coast gasoline spot market: Products in the West Coast gasoline spot market typically sell at a premium to those in other parts of the country because the region is relatively isolated from other refining centers in the United States and more expensive gasoline specifications in

California narrow supply options. However, West Coast premiums in March rose to the highest levels on a real basis since mid-2015, as reduced refinery capacity, unplanned refinery and other infrastructure outages, and higher than normal volatility in market prices constrained an already tight market for gasoline. Planned refinery outages typically do not drive large price increases. Refineries prepare ahead of outages to ensure adequate inventories and alternative sources of supplies are available. However, unplanned refinery outages can result in large price increases, especially when they occur at the same time as planned outages in a tightly balanced market.

Recent planned outages include turnaround activity at Marathon's 382,000-b/d Los Angeles refinery and Valero's 93,000-b/d Wilmington refinery, which extended its maintenance schedule after unplanned flaring on March 26. Unplanned outages this month include Kinder Morgan's SFPP pipeline entering unplanned maintenance on March 4 due to a petroleum product release at its Watson facility in Long Beach, PBF's 166,200-b/d Torrance refinery beginning unplanned maintenance on March 6 that has continued to disrupt operations as of April 5, and Valero's 149,000-b/d Benicia refinery experiencing mechanical issues on March 10. With West Coast gasoline inventories below average since the beginning of the year, an increasingly tight market pushed the Los Angeles CARBOB-Brent crack spread to $1.53/gal on March 18, a $1.12/gal premium over the New York Harbor spot crack spread **(Figure 7)**.

Figure 7. Spot market gasoline crack spread

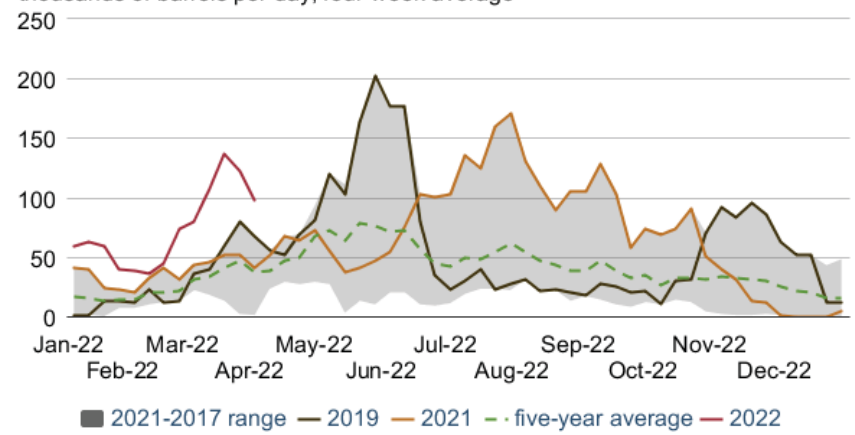


eia Source: Based on data from CME Group and Intercontinental Exchange, as compiled by Bloomberg L.P.

Refinery closures in the West may be contributing to low refinery output of gasoline and resulting low inventories, which contributes to higher prices. Another consequence of these refinery closures, particularly during unplanned refinery outages, is more gasoline imports into the West Coast. From mid-2020, refinery capacity in the West Coast has declined by about 200,000 b/d (7.5%). Since the beginning of the year, data from our *Weekly Petroleum Status Report* shows West Coast gasoline imports have been higher than the five-year range maximum for this time of year, reaching a four-week average of 137,000 b/d in the week ending March 18 **(Figure 8)**. In previous years, imports have generally been low except for similar periods of

market tightness, such as during several refinery outages in mid-2019. Total gasoline imports into the West Coast began increasing in 2021, reaching high levels even in the absence of significant unplanned outages, such as in the summer of 2021. This trend suggests the region may need more imports to offset the loss of supplies from reduced refining capacity. According to trade press reports, arrivals of gasoline and alkylate (a gasoline blending stock needed to produce Los Angeles CARBOB specification fuel) helped spur a drop in the Los Angeles spot market gasoline crack spread in the second half of March.

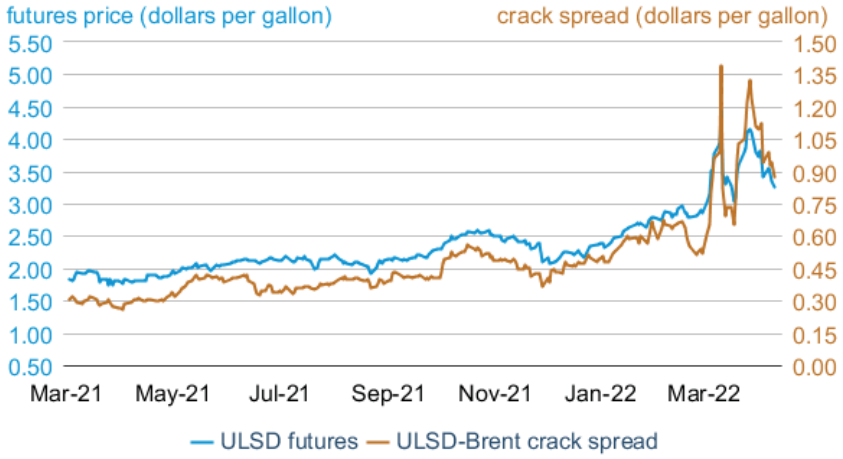
Figure 8. West coast (PADD 5) gasoline imports



Source: U.S. Energy Information Administration, Weekly Petroleum Status Report

Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at $3.27/gal on April 7, a 12 cent/gal increase from March 1 **(Figure 9)**. The ULSD-Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) increased 22 cents/gal during the same period and settled at 87 cents/gal on April 7.

Figure 9. Historical ULSD front-month futures prices and crack spreads

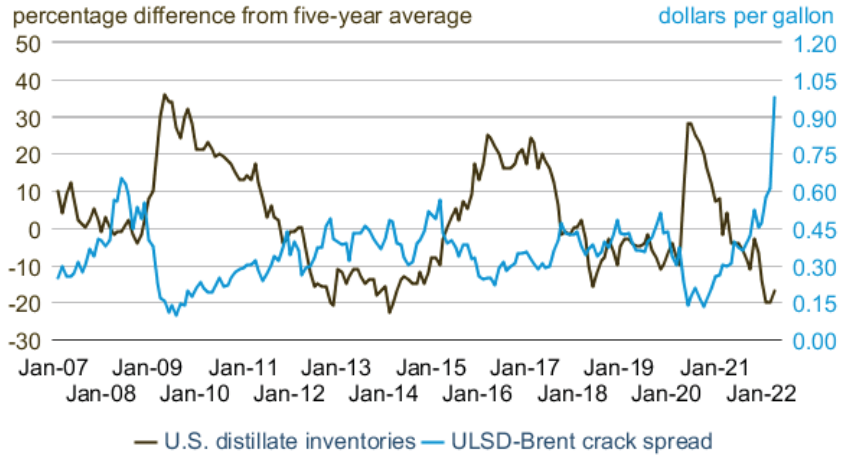


Source: Based on data from CME Group, as compiled by Bloomberg L.P.
Note: ULSD=ultra-low sulfur diesel

Low inventories and high consumption globally contributed to the increasing ULSD-Brent crack spread in March. The ULSD-Brent crack spread reached as high as $1.39/gal on March 8 and averaged 97 cents/gal for the month, which—even when adjusted for inflation—is the highest monthly average crack spread in our data going back to July 1988. Our 4.0 million b/d estimate for distillate fuel oil consumption in March was 3% lower than the five-year average. Additionally, our March distillate production estimate of 5.0 million b/d was the highest since April 2020 and contributed to the first distillate inventory build since October 2021.

U.S. distillate inventories in March were 17% below their five-year March average **(Figure 10)**. As distillate inventories have come down from their June 2020 peak, ULSD-Brent crack spreads have been increasing. The more recent increase in the ULSD-Brent crack spread has been due to the possibility of reduced distillate exports from Russia, adding to the already short global supply. We estimate U.S. distillate production in March increased by 0.4 million b/d (8%), contributing to a slight inventory build, and we forecast inventories to generally increase throughout 2022.

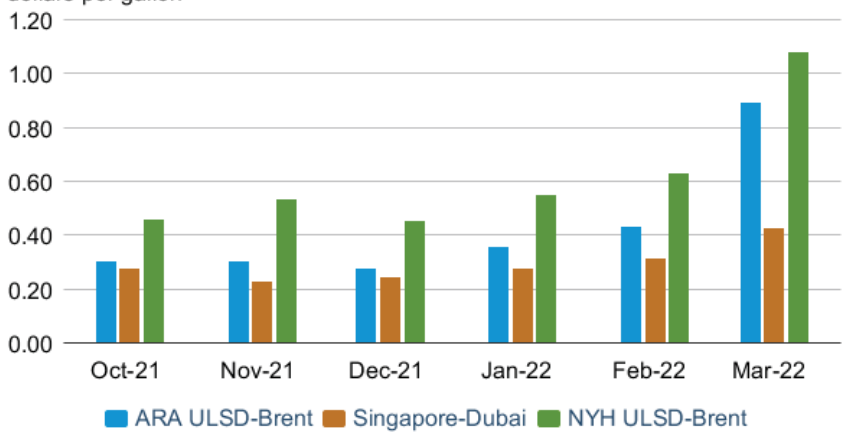
Figure 10. U.S. distillate inventories and ULSD-Brent crack spread



Source: Based on data from CME Group, as compiled by Bloomberg, L.P.

Low distillate inventories across the globe have been causing high spot distillate crack spreads at the major global trading hubs in Amsterdam, Rotterdam, and Antwerp (ARA); Singapore; and New York Harbor (NYH). In March, the ARA ULSD-Brent crack spread averaged 90 cents/gal, the Singapore-Dubai crack spread averaged 43 cents/gal, and the NYH ULSD-Brent crack spread averaged $1.08/gal **(Figure 11)**. Although distillate crack spreads have been increasing across the globe, they increased more at the ARA and NYH trading hubs in March, likely because of bans on petroleum imports from Russia into the United States and parts of Europe. The distillate crack spread increased by less at the Singapore hub because changes in Russia's oil trading patterns may have had less of an effect in the East of Suez market, a region that primarily exports diesel. Nevertheless, the Singapore crack spread has increased 15 cents/gal since October 2021. Distillate inventories are at more-than-five-year lows for the month of March at all three trading hubs.

Figure 11. International ULSD crack spreads

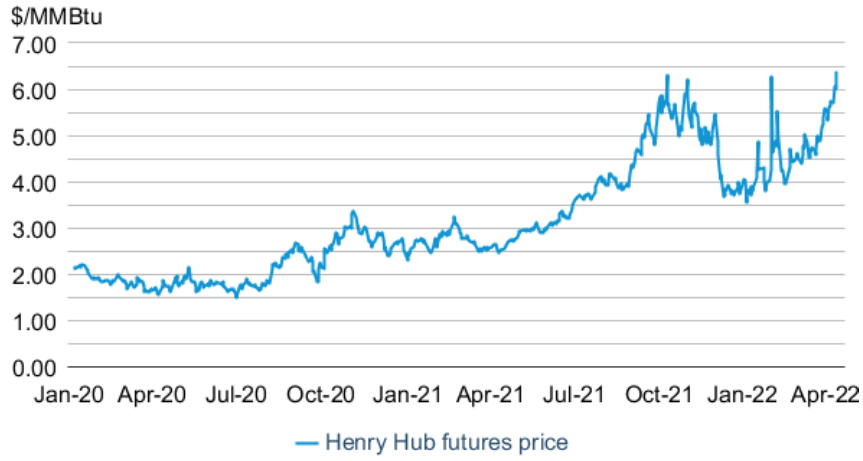


Source: Based on data from CME Group, as compiled by Bloomberg L.P.
Note: ARA=Amsterdam, Rotterdam, and Antwerp; ULSD=ultra-low sulfur diesel; NYH=New York Harbor

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $6.36 per million British thermal units (MMBtu) on April 7, 2022, which was up $1.79/MMBtu from March 1, 2022 **(Figure 12)**. The average closing price for front-month natural gas futures prices in March was $4.98/MMBtu, the highest March monthly average in real terms since 2014.

Figure 12. Historical nominal front-month U.S. natural gas prices

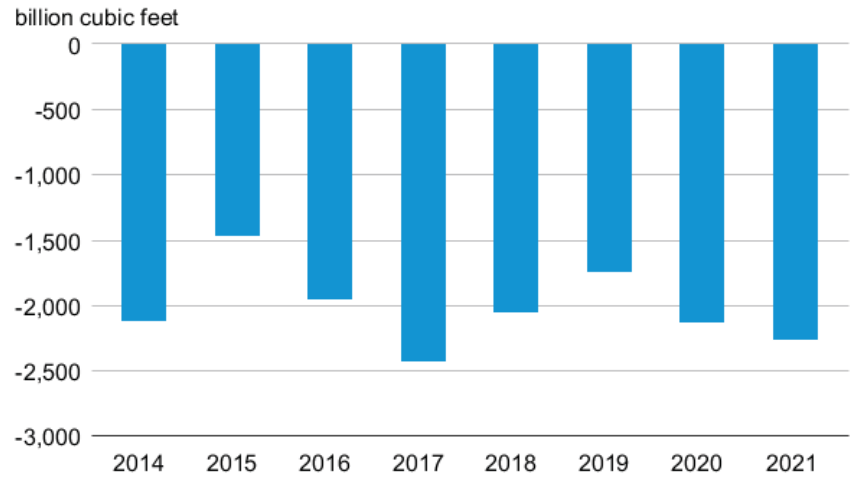


Source: Based on data from CME Group, as compiled by Bloomberg L.P.

The front-month natural gas futures contract price rose above $5.00/MMBtu in the second half of March and climbed above $6.00/MMBtu in early April amid high demand in the residential, commercial, and electric power sectors, along with high levels of U.S. liquefied natural gas (LNG) exports. In addition, storage inventories below the five-year (2017–2021) average coupled with only modest increases in production both contributed to upward pressure on natural gas futures prices. Natural gas consumption in the residential and commercial sectors was 31.1 billion cubic feet per day (Bcf/d) in March, which is 1.4 Bcf/d higher than March last year. Natural gas consumption in the electric power sector averaged 25.8 Bcf/d, up 1.5 Bcf/d from March last year. U.S. LNG export levels set another record high in March of 11.9 Bcf/d, which is 1.5 Bcf/d higher than March last year and 2.1 Bcf/d higher than the annual average last year, as facilities continue to operate at high utilization rates and new capacity comes online.

In STEO, we estimate storage inventories remained below the five-year average in March, finishing the month at 1.4 trillion cubic feet (Tcf), which is 17% lower than the five-year average for this time of year. U.S. dry natural gas production peaked in December 2021 at 97.3 Bcf/d, but then it declined to 94.9 Bcf/d in January, partially due to freeze-offs in key producing regions. Production has yet to return to its December level, averaging 96.2 Bcf/d in March.

Figure 13. November to March change in U.S. working natural gas inventory



Source: US. Energy Information Administration, Short Term Energy Outlook
Note: Listed year corresponds to beginning of period in November

We estimate natural gas storage inventories ended the withdrawal season (November–March) at 1.4 Tcf, which is almost 0.3 Tcf lower than the five-year average and 0.4 Tcf lower than last year at this time **(Figure 13)**. Despite weather near the 10-year average over the course of the winter, natural gas withdrawals during winter were the most since winter 2017–2018, and the second highest in the past eight years. Consumption of natural gas in the residential and commercial sectors was about the same as last year, averaging 37.3 Bcf/d from November–March. However, natural gas consumption in the electric power sector averaged 28.8 Bcf/d, which was 1.9 Bcf/d higher than last winter. The increase in natural gas consumption in the electric power sector in recent months is partly the result of reductions in coal-fired electricity-generating capacity and ongoing constraints in the coal market, which make coal-to-natural gas fuel switching less sensitive to rising natural gas prices than they have been in recent years.

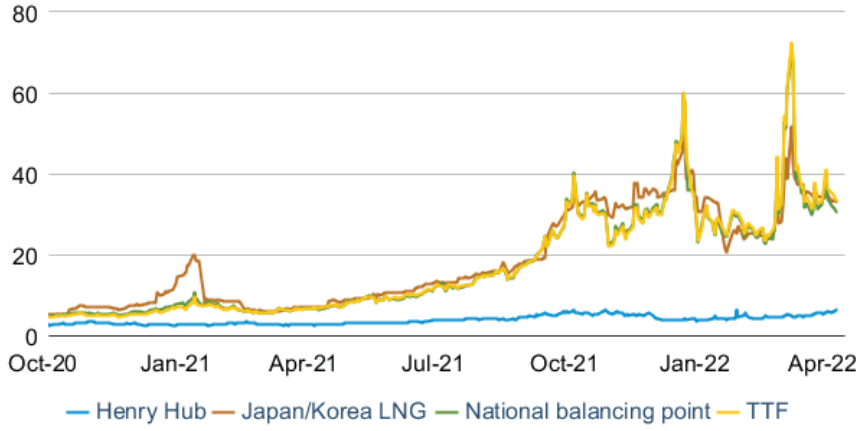
U.S. LNG exports have been at record-high levels since December 2021 and set another all-time record in March 2022. According to our estimates, LNG exports averaged 11.9 Bcf/d—an increase of 0.5 Bcf/d compared with the previous peak set in January (11.4 Bcf/d) and 0.7 Bcf/d higher than exports in February. The incremental increase in exports compared with prior months came from ramping up LNG production at a new U.S. LNG export facility, Calcasieu Pass LNG. The first LNG cargo from Calcasieu Pass was exported on March 1. During March 2022, Calcasieu Pass exported five LNG cargoes totaling 0.6 Bcf/d. We expect Calcasieu Pass to achieve its full LNG production capacity of 1.3 Bcf/d baseload (1.6 Bcf/d peak) by the third quarter of this year.

International natural gas prices: Most U.S. LNG exports since December 2021 have been shipped to countries in Europe, driven by high natural gas prices in Europe **(Figure 14)**. From January through November 2021, the United States shipped 49% of its LNG to countries in Asia, 27% to European Union (EU) countries and the United Kingdom, and 24% to other countries. However, from December 2021 through February 2022, 57% of U.S. LNG exports went to EU

countries and the United Kingdom, averaging 5.6 Bcf/d in December, 7.0 Bcf/d in January, and 6.6 Bcf/d in February.

Figure 14. International natural gas prices

dollars per million British thermal units

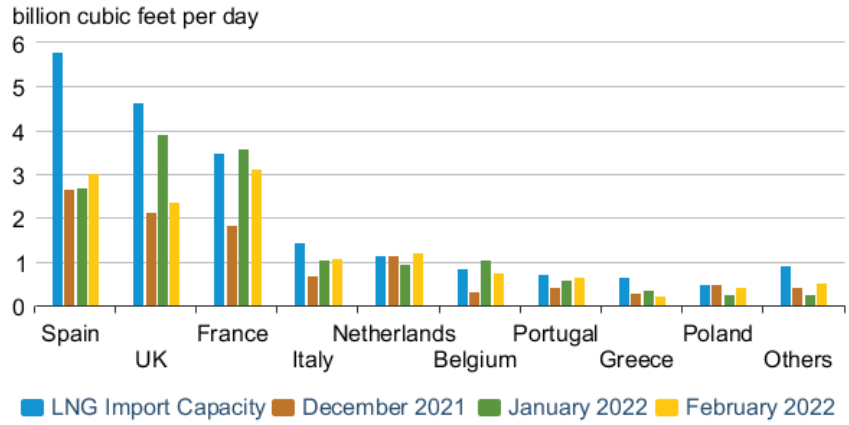


Source: Based on data from CME Group, as compiled by Bloomberg L.P.
Note: TTF=Title Transfer Facility

LNG swap prices in Europe remain high because of Europe's increased demand for LNG amid supply uncertainties due to Russia's further invasion of Ukraine. Europe's LNG imports will remain high to replenish natural gas inventories, which were 26% full as of March 31, 2022, compared with the five-year average of 34% and last year's level of 30% full.

Currently, 15 EU countries and the United Kingdom import LNG. Eleven of these countries account for 99% of Europe's total LNG imports and import capacity. Utilization of LNG import capacity across these 11 countries was relatively high this winter, averaging 66% compared with 39% last winter. Regionally, the European natural gas pipeline grid is not fully integrated between its northern and southern parts. Some countries, such as Belgium and the Netherlands, act as transit countries, delivering natural gas to other parts of Northwest Europe. Other countries in Southern Europe, including Spain, Portugal, Italy, and Greece, have limited pipeline interconnectivity and, therefore, use LNG imports primarily for domestic consumption. Belgium, the Netherlands, and France averaged utilization of 88% this winter, while Spain, Portugal, Italy, and Greece averaged 58% **(Figure 15)**.

Figure 15. Europe's liquefied natural gas imports and import capacity by country (Dec 2021-Feb 2022)



Source: Based on data from CEDIGAZ and the International Group of Liquefied Natural Gas Importers (GIIGNL)
Note: 'Others' include Lithuania, Croatia, Sweden, Finland, Malta, Gibraltar, and Norway

Notable forecast changes

- We forecast production of crude oil and other liquids in Russia will average 10.1 million b/d from 2Q22 through 4Q22, which would be down from 11.3 million b/d in 1Q22 and 0.6 million b/d less than we forecast in the March STEO. We forecast Russia's production will average 9.8 million b/d in 2023, which is 1.0 million b/d lower than we forecast in the March STEO. The lower forecast reflects our assumption that sanctions and independent corporate actions will limit crude oil production in Russia more than we expected last month.

- We revised our forecast for growth in world liquid fuels consumption in 2022 down by 0.7 million b/d from the March STEO to 2.4 million b/d. The effects on oil consumption and on economic growth in Russia and surrounding countries contributed to most of the downward revision. Our forecast for world GDP growth in 2022 from Oxford Economics is 4.0%, down from 4.3% in the March STEO. Other revisions to the global liquid fuels consumption forecast stemmed from an increase in mobility restrictions in China as a result of recent increases in COVID-19 cases.

- In this outlook, we have updated our assumptions to include the announced release of 1 million b/d of crude oil from the U.S. Strategic Petroleum Reserve (SPR) from May through October. Our assumption that SPR inventories will fall by 1.0 million b/d from May through October is changed from our assumption last STEO than SPR inventories would fall by 0.1 million b/d over the same period.

- In the April STEO, U.S. LNG exports for 2022 average 12.2 billion cubic feet per day (Bcf/d,) which is 0.9 Bcf/d more than we forecast in last month's STEO. The updated forecast factored in the recent agreement between the United States and EU that the United States will ensure additional LNG volumes for the EU market. We assume this

agreement will result in higher utilization at U.S. export facilities throughout the year than we had previously forecast. In addition, we assume that the Calcasieu Pass LNG export facility in Louisiana achieves full production sooner than we had previously forecast.

- The Henry Hub natural gas spot price average is $5.23/MMBtu in 2022 in this month's STEO. That forecast is $1.28/MMBtu higher than we had forecast in last month's STEO. The higher forecast largely reflects our forecast that natural gas exports in 2022 will be higher than we previously expected. It also reflects a reduction in our forecast of capacity additions of solar power generation, which increases the need for electric power generation from other sources, including natural gas.
- The electric power sector is currently scheduling 20 gigawatts (GW) of new solar PV capacity to be added in 2022, down from scheduled additions of 22 GW for 2022 that were reported in the last STEO. Some of these projects have been delayed into 2023, when we expect 24.0 GW will be added.
- You can find more information in the detailed table of forecast changes.

Table 3a. International Petroleum and Other Liquids Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Production (million barrels per day) (a)															
OECD	**30.07**	**30.74**	**31.07**	**32.28**	**31.85**	*32.57*	*32.90*	*33.71*	*34.12*	*34.33*	*34.38*	*34.77*	**31.05**	*32.76*	*34.40*
U.S. (50 States)	**17.62**	**19.05**	**18.94**	**19.87**	**19.54**	*20.29*	*20.66*	*21.12*	*21.30*	*21.56*	*21.73*	*21.97*	**18.88**	*20.41*	*21.64*
Canada	**5.62**	**5.37**	**5.49**	**5.76**	**5.75**	*5.66*	*5.74*	*5.85*	*5.92*	*5.88*	*5.89*	*5.91*	**5.56**	*5.75*	*5.90*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	**1.92**	*1.92*	*1.90*	*1.86*	*1.90*	*1.86*	*1.83*	*1.79*	**1.92**	*1.90*	*1.85*
Other OECD	**4.91**	**4.37**	**4.74**	**4.73**	**4.64**	*4.70*	*4.61*	*4.87*	*5.00*	*5.03*	*4.93*	*5.11*	**4.69**	*4.71*	*5.02*
Non-OECD	**62.51**	**63.91**	**65.52**	**66.02**	**67.14**	*66.91*	*68.01*	*67.72*	*67.49*	*67.93*	*68.14*	*67.67*	**64.50**	*67.45*	*67.81*
OPEC	**30.34**	**30.88**	**32.28**	**33.10**	**33.75**	*34.03*	*34.58*	*34.85*	*34.97*	*34.82*	*34.81*	*34.80*	**31.66**	*34.30*	*34.85*
Crude Oil Portion	**25.08**	**25.49**	**26.84**	**27.66**	**28.19**	*28.59*	*29.10*	*29.33*	*29.43*	*29.41*	*29.35*	*29.30*	**26.28**	*28.81*	*29.37*
Other Liquids (b)	**5.26**	**5.39**	**5.44**	**5.44**	**5.56**	*5.43*	*5.48*	*5.52*	*5.54*	*5.41*	*5.46*	*5.50*	**5.38**	*5.50*	*5.48*
Eurasia	**13.38**	**13.61**	**13.58**	**14.23**	**14.29**	*13.02*	*13.11*	*13.03*	*13.03*	*12.85*	*12.78*	*12.80*	**13.70**	*13.36*	*12.86*
China	**4.99**	**5.03**	**5.01**	**4.93**	**5.12**	*5.05*	*5.05*	*5.09*	*5.08*	*5.10*	*5.10*	*5.14*	**4.99**	*5.08*	*5.10*
Other Non-OECD	**13.79**	**14.38**	**14.64**	**13.76**	**13.98**	*14.81*	*15.27*	*14.75*	*14.41*	*15.15*	*15.45*	*14.93*	**14.15**	*14.71*	*14.99*
Total World Production	**92.58**	**94.65**	**96.59**	**98.30**	**98.99**	*99.48*	*100.91*	*101.42*	*101.61*	*102.27*	*102.52*	*102.44*	**95.55**	*100.21*	*102.21*
Non-OPEC Production	**62.23**	**63.77**	**64.31**	**65.21**	**65.24**	*65.45*	*66.33*	*66.58*	*66.64*	*67.44*	*67.71*	*67.64*	**63.89**	*65.91*	*67.36*
Consumption (million barrels per day) (c)															
OECD	**42.45**	**44.08**	**45.82**	**46.74**	**45.82**	*45.49*	*46.24*	*46.48*	*46.12*	*45.90*	*46.61*	*46.85*	**44.79**	*46.01*	*46.37*
U.S. (50 States)	**18.45**	**20.03**	**20.21**	**20.41**	**19.98**	*20.61*	*20.82*	*20.89*	*20.29*	*20.92*	*21.08*	*21.14*	**19.78**	*20.58*	*20.86*
U.S. Territories	**0.21**	**0.19**	**0.19**	**0.20**	**0.21**	*0.19*	*0.20*	*0.21*	*0.21*	*0.19*	*0.19*	*0.20*	**0.20**	*0.20*	*0.20*
Canada	**2.26**	**2.24**	**2.50**	**2.38**	**2.43**	*2.40*	*2.52*	*2.50*	*2.48*	*2.42*	*2.53*	*2.50*	**2.35**	*2.47*	*2.48*
Europe	**11.91**	**12.62**	**13.83**	**13.87**	**13.21**	*13.14*	*13.46*	*13.17*	*13.17*	*13.18*	*13.58*	*13.35*	**13.06**	*13.25*	*13.32*
Japan	**3.73**	**3.08**	**3.18**	**3.67**	**3.84**	*3.14*	*3.19*	*3.50*	*3.78*	*3.14*	*3.16*	*3.46*	**3.42**	*3.42*	*3.38*
Other OECD	**5.89**	**5.92**	**5.90**	**6.21**	**6.15**	*6.01*	*6.04*	*6.20*	*6.19*	*6.04*	*6.06*	*6.20*	**5.98**	*6.10*	*6.12*
Non-OECD	**51.83**	**52.25**	**52.58**	**53.69**	**53.13**	*53.70*	*53.99*	*54.30*	*55.45*	*55.70*	*55.30*	*54.98*	**52.59**	*53.78*	*55.35*
Eurasia	**4.66**	**4.73**	**5.09**	**4.95**	**4.47**	*4.33*	*4.69*	*4.63*	*4.32*	*4.47*	*4.78*	*4.70*	**4.86**	*4.53*	*4.57*
Europe	**0.74**	**0.74**	**0.74**	**0.76**	**0.76**	*0.76*	*0.76*	*0.77*	*0.76*	*0.77*	*0.78*	*0.78*	**0.75**	*0.76*	*0.77*
China	**15.27**	**15.48**	**14.99**	**15.33**	**15.41**	*15.74*	*15.57*	*15.88*	*16.58*	*16.48*	*15.84*	*15.76*	**15.27**	*15.65*	*16.16*
Other Asia	**13.43**	**12.98**	**12.84**	**13.69**	**13.78**	*13.93*	*13.54*	*13.95*	*14.56*	*14.53*	*13.95*	*14.25*	**13.23**	*13.80*	*14.32*
Other Non-OECD	**17.73**	**18.32**	**18.92**	**18.96**	**18.72**	*18.95*	*19.44*	*19.07*	*19.23*	*19.44*	*19.96*	*19.49*	**18.49**	*19.05*	*19.53*
Total World Consumption	**94.28**	**96.33**	**98.40**	**100.43**	**98.95**	*99.19*	*100.23*	*100.78*	*101.56*	*101.59*	*101.91*	*101.83*	**97.38**	*99.80*	*101.73*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.47**	**0.51**	**0.37**	**0.77**	**0.80**	*-0.11*	*0.73*	*0.60*	*0.02*	*-0.54*	*-0.21*	*0.56*	**0.53**	*0.51*	*-0.04*
Other OECD	**0.87**	**0.16**	**0.96**	**0.71**	**-0.28**	*-0.06*	*-0.45*	*-0.40*	*-0.02*	*-0.04*	*-0.12*	*-0.37*	**0.67**	*-0.30*	*-0.14*
Other Stock Draws and Balance	**0.37**	**1.02**	**0.48**	**0.64**	**-0.57**	*-0.12*	*-0.96*	*-0.85*	*-0.05*	*-0.09*	*-0.27*	*-0.79*	**0.63**	*-0.62*	*-0.30*
Total Stock Draw	**1.70**	**1.69**	**1.81**	**2.12**	**-0.04**	*-0.29*	*-0.68*	*-0.64*	*-0.04*	*-0.67*	*-0.61*	*-0.61*	**1.83**	*-0.41*	*-0.48*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,302**	**1,271**	**1,241**	**1,194**	**1,151**	*1,242*	*1,265*	*1,247*	*1,249*	*1,306*	*1,328*	*1,287*	**1,194**	*1,247*	*1,287*
OECD Commercial Inventory	**2,908**	**2,864**	**2,745**	**2,633**	**2,614**	*2,710*	*2,775*	*2,794*	*2,798*	*2,858*	*2,892*	*2,885*	**2,633**	*2,794*	*2,885*

(a) Supply includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains.

(b) Includes lease condensate, natural gas plant liquids, other liquids, and refinery processing gain. Includes other unaccounted-for liquids.

(c) Consumption of petroleum by the OECD countries is synonymous with "petroleum product supplied," defined in the glossary of the EIA *Petroleum Supply Monthly* , DOE/EIA-0109. Consumption of petroleum by the non-OECD countries is "apparent consumption," which includes internal consumption, refinery fuel and loss, and bunkering.

- = no data available

OECD = Organization for Economic Cooperation and Development: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

OPEC = Organization of the Petroleum Exporting Countries: Algeria, Angola, Congo (Brazzaville), Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, the United Arab Emirates, Venezuela.

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration international energy statistics.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 4a. U.S. Petroleum and Other Liquids Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (million barrels per day)															
Crude Oil Supply															
Domestic Production (a)	**10.69**	**11.28**	**11.13**	**11.63**	**11.52**	*11.90*	*12.15*	*12.46*	*12.73*	*12.88*	*13.02*	*13.17*	**11.19**	*12.01*	*12.95*
Alaska	**0.46**	**0.44**	**0.41**	**0.44**	**0.44**	*0.39*	*0.40*	*0.41*	*0.43*	*0.39*	*0.41*	*0.43*	**0.44**	*0.41*	*0.42*
Federal Gulf of Mexico (b)	**1.80**	**1.79**	**1.49**	**1.73**	**1.76**	*1.81*	*1.75*	*1.78*	*1.85*	*1.83*	*1.75*	*1.75*	**1.70**	*1.78*	*1.79*
Lower 48 States (excl GOM)	**8.44**	**9.05**	**9.24**	**9.45**	**9.31**	*9.69*	*10.01*	*10.26*	*10.45*	*10.66*	*10.86*	*10.99*	**9.05**	*9.82*	*10.74*
Crude Oil Net Imports (c)	**2.87**	**2.96**	**3.60**	**3.09**	**3.14**	*3.91*	*3.33*	*3.07*	*2.64*	*3.51*	*3.35*	*2.46*	**3.13**	*3.36*	*2.99*
SPR Net Withdrawals	**0.00**	**0.18**	**0.04**	**0.26**	**0.32**	*0.89*	*0.98*	*0.41*	*0.04*	*0.09*	*0.03*	*0.11*	**0.12**	*0.65*	*0.07*
Commercial Inventory Net Withdrawals	**-0.18**	**0.59**	**0.30**	**-0.01**	**0.10**	*-0.20*	*0.15*	*-0.10*	*-0.38*	*-0.09*	*0.06*	*0.06*	**0.18**	*-0.01*	*-0.09*
Crude Oil Adjustment (d)	**0.42**	**0.63**	**0.54**	**0.55**	**0.42**	*0.22*	*0.23*	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.53**	*0.26*	*0.21*
Total Crude Oil Input to Refineries	**13.81**	**15.65**	**15.60**	**15.51**	**15.51**	*16.72*	*16.84*	*16.01*	*15.25*	*16.60*	*16.68*	*15.97*	**15.15**	*16.27*	*16.13*
Other Supply															
Refinery Processing Gain	**0.84**	**0.97**	**0.97**	**1.04**	**0.97**	*1.07*	*1.06*	*1.07*	*1.04*	*1.00*	*1.00*	*1.01*	**0.95**	*1.04*	*1.01*
Natural Gas Plant Liquids Production	**4.86**	**5.46**	**5.52**	**5.74**	**5.64**	*5.93*	*6.04*	*6.16*	*6.15*	*6.26*	*6.29*	*6.31*	**5.40**	*5.95*	*6.25*
Renewables and Oxygenate Production (e)	**1.03**	**1.13**	**1.10**	**1.24**	**1.19**	*1.18*	*1.19*	*1.21*	*1.17*	*1.21*	*1.20*	*1.25*	**1.12**	*1.19*	*1.21*
Fuel Ethanol Production	**0.90**	**0.99**	**0.96**	**1.06**	**1.03**	*0.99*	*1.01*	*1.01*	*0.98*	*1.01*	*1.00*	*1.03*	**0.98**	*1.01*	*1.00*
Petroleum Products Adjustment (f)	**0.19**	**0.22**	**0.22**	**0.23**	**0.21**	*0.22*	*0.22*	*0.22*	*0.21*	*0.22*	*0.22*	*0.22*	**0.22**	*0.22*	*0.22*
Product Net Imports (c)	**-2.94**	**-3.13**	**-3.24**	**-3.86**	**-3.98**	*-3.70*	*-4.12*	*-4.07*	*-3.89*	*-3.83*	*-4.01*	*-4.01*	**-3.29**	*-3.97*	*-3.94*
Hydrocarbon Gas Liquids	**-2.02**	**-2.23**	**-2.16**	**-2.19**	**-2.21**	*-2.29*	*-2.37*	*-2.43*	*-2.56*	*-2.56*	*-2.64*	*-2.59*	**-2.15**	*-2.32*	*-2.59*
Unfinished Oils	**0.14**	**0.25**	**0.22**	**0.08**	**0.17**	*0.31*	*0.31*	*0.20*	*0.18*	*0.22*	*0.29*	*0.21*	**0.17**	*0.25*	*0.23*
Other HC/Oxygenates	**-0.08**	**-0.04**	**-0.03**	**-0.06**	**-0.06**	*-0.04*	*-0.06*	*-0.04*	*-0.05*	*-0.04*	*-0.04*	*-0.03*	**-0.05**	*-0.05*	*-0.04*
Motor Gasoline Blend Comp.	**0.55**	**0.79**	**0.66**	**0.40**	**0.33**	*0.75*	*0.40*	*0.21*	*0.37*	*0.60*	*0.39*	*0.41*	**0.60**	*0.42*	*0.44*
Finished Motor Gasoline	**-0.66**	**-0.66**	**-0.68**	**-0.85**	**-0.79**	*-0.56*	*-0.50*	*-0.54*	*-0.70*	*-0.57*	*-0.52*	*-0.75*	**-0.71**	*-0.60*	*-0.63*
Jet Fuel	**0.03**	**0.09**	**0.09**	**0.00**	**-0.04**	*0.02*	*-0.04*	*-0.03*	*-0.02*	*0.03*	*0.06*	*0.07*	**0.05**	*-0.02*	*0.03*
Distillate Fuel Oil	**-0.49**	**-0.90**	**-0.94**	**-0.89**	**-0.87**	*-1.26*	*-1.30*	*-0.99*	*-0.70*	*-1.02*	*-1.04*	*-0.93*	**-0.80**	*-1.11*	*-0.93*
Residual Fuel Oil	**0.08**	**0.05**	**0.08**	**0.16**	**0.11**	*0.05*	*0.01*	*0.08*	*-0.01*	*0.01*	*-0.02*	*0.08*	**0.09**	*0.06*	*0.02*
Other Oils (g)	**-0.49**	**-0.49**	**-0.50**	**-0.50**	**-0.62**	*-0.67*	*-0.59*	*-0.53*	*-0.40*	*-0.51*	*-0.49*	*-0.48*	**-0.49**	*-0.60*	*-0.47*
Product Inventory Net Withdrawals	**0.65**	**-0.26**	**0.03**	**0.52**	**0.38**	*-0.80*	*-0.40*	*0.29*	*0.36*	*-0.53*	*-0.30*	*0.39*	**0.23**	*-0.13*	*-0.02*
Total Supply	**18.43**	**20.03**	**20.21**	**20.41**	**19.92**	*20.61*	*20.82*	*20.89*	*20.29*	*20.92*	*21.08*	*21.14*	**19.78**	*20.56*	*20.86*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.40**	**3.33**	**3.31**	**3.60**	**3.91**	*3.39*	*3.40*	*3.82*	*3.90*	*3.52*	*3.49*	*3.85*	**3.41**	*3.63*	*3.69*
Other HC/Oxygenates	**0.11**	**0.13**	**0.11**	**0.16**	**0.15**	*0.18*	*0.16*	*0.21*	*0.20*	*0.19*	*0.18*	*0.24*	**0.13**	*0.17*	*0.20*
Unfinished Oils	**0.05**	**0.03**	**-0.05**	**-0.01**	**0.03**	*0.00*	*0.00*	*0.00*	*0.00*	*-0.03*	*-0.01*	*0.01*	**0.00**	*0.01*	*-0.01*
Motor Gasoline	**8.00**	**9.07**	**9.13**	**8.96**	**8.37**	*9.13*	*9.22*	*8.94*	*8.43*	*9.16*	*9.22*	*9.00*	**8.80**	*8.92*	*8.96*
Fuel Ethanol blended into Motor Gasoline	**0.82**	**0.93**	**0.94**	**0.95**	**0.89**	*0.93*	*0.93*	*0.92*	*0.86*	*0.94*	*0.94*	*0.94*	**0.91**	*0.92*	*0.92*
Jet Fuel	**1.13**	**1.34**	**1.52**	**1.49**	**1.46**	*1.57*	*1.62*	*1.60*	*1.51*	*1.64*	*1.70*	*1.67*	**1.37**	*1.56*	*1.63*
Distillate Fuel Oil	**3.97**	**3.93**	**3.87**	**4.00**	**4.09**	*4.03*	*3.96*	*4.10*	*4.18*	*4.09*	*4.03*	*4.12*	**3.94**	*4.04*	*4.10*
Residual Fuel Oil	**0.26**	**0.25**	**0.33**	**0.41**	**0.31**	*0.27*	*0.30*	*0.30*	*0.25*	*0.26*	*0.28*	*0.30*	**0.31**	*0.29*	*0.27*
Other Oils (g)	**1.53**	**1.95**	**1.98**	**1.81**	**1.67**	*2.04*	*2.16*	*1.93*	*1.82*	*2.07*	*2.20*	*1.96*	**1.82**	*1.95*	*2.01*
Total Consumption	**18.45**	**20.03**	**20.21**	**20.41**	**19.98**	*20.61*	*20.82*	*20.89*	*20.29*	*20.92*	*21.08*	*21.14*	**19.78**	*20.58*	*20.86*
Total Petroleum and Other Liquids Net Imports	**-0.07**	**-0.16**	**0.35**	**-0.77**	**-0.84**	*0.21*	*-0.79*	*-1.00*	*-1.25*	*-0.32*	*-0.66*	*-1.55*	**-0.16**	*-0.61*	*-0.95*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**501.9**	**448.0**	**420.4**	**421.4**	**412.4**	*430.3*	*416.4*	*425.5*	*460.0*	*468.3*	*463.0*	*457.7*	**421.4**	*425.5*	*457.7*
Hydrocarbon Gas Liquids	**168.6**	**195.8**	**225.6**	**188.4**	**139.6**	*194.9*	*243.4*	*205.6*	*166.6*	*214.2*	*251.8*	*209.0*	**188.4**	*205.6*	*209.0*
Unfinished Oils	**93.3**	**93.0**	**90.2**	**80.3**	**87.8**	*89.8*	*89.7*	*82.9*	*92.3*	*90.1*	*89.6*	*82.5*	**80.3**	*82.9*	*82.5*
Other HC/Oxygenates	**29.1**	**27.5**	**25.4**	**28.6**	**33.5**	*32.3*	*32.0*	*32.2*	*34.3*	*33.1*	*32.8*	*33.1*	**28.6**	*32.2*	*33.1*
Total Motor Gasoline	**237.6**	**237.2**	**227.0**	**232.2**	**236.8**	*245.3*	*233.6*	*249.1*	*247.1*	*246.5*	*238.4*	*250.5*	**232.2**	*249.1*	*250.5*
Finished Motor Gasoline	**20.3**	**18.6**	**18.5**	**17.7**	**16.5**	*20.8*	*23.0*	*26.6*	*23.2*	*24.3*	*25.4*	*27.9*	**17.7**	*26.6*	*27.9*
Motor Gasoline Blend Comp.	**217.4**	**218.6**	**208.5**	**214.5**	**220.3**	*224.5*	*210.5*	*222.5*	*223.9*	*222.2*	*213.0*	*222.6*	**214.5**	*222.5*	*222.6*
Jet Fuel	**39.0**	**44.7**	**42.0**	**35.8**	**35.4**	*37.1*	*40.3*	*37.6*	*37.5*	*38.5*	*41.2*	*38.2*	**35.8**	*37.6*	*38.2*
Distillate Fuel Oil	**145.5**	**140.1**	**131.7**	**129.9**	**114.3**	*121.4*	*129.4*	*131.1*	*119.4*	*124.5*	*131.4*	*133.3*	**129.9**	*131.1*	*133.3*
Residual Fuel Oil	**30.9**	**31.1**	**28.0**	**25.4**	**28.8**	*30.8*	*29.6*	*31.0*	*30.7*	*31.4*	*30.1*	*31.5*	**25.4**	*31.0*	*31.5*
Other Oils (g)	**55.8**	**54.1**	**50.5**	**51.8**	**62.2**	*59.9*	*50.6*	*52.0*	*61.1*	*59.0*	*49.7*	*51.0*	**51.8**	*52.0*	*51.0*
Total Commercial Inventory	**1301.7**	**1271.5**	**1240.7**	**1193.8**	**1150.7**	*1241.7*	*1264.8*	*1247.1*	*1248.8*	*1305.7*	*1327.9*	*1286.8*	**1193.8**	*1247.1*	*1286.8*
Crude Oil in SPR	**637.8**	**621.3**	**617.8**	**593.7**	**564.6**	*483.4*	*393.4*	*355.6*	*351.8*	*344.0*	*341.4*	*330.9*	**593.7**	*355.6*	*330.9*

(a) Includes lease condensate.

(b) Crude oil production from U.S. Federal leases in the Gulf of Mexico (GOM).

(c) Net imports equals gross imports minus gross exports.

(d) Crude oil adjustment balances supply and consumption and was previously referred to as "Unaccounted for Crude Oil."

(e) Renewables and oxygenate production includes pentanes plus, oxygenates (excluding fuel ethanol), and renewable fuels. Beginning in January 2021, renewable fuels includes biodiesel, renewable diesel, renewable jet fuel, renewable heating oil, renewable naphtha and gasoline, and other renewable fuels. For December 2020 and prior, renewable fuels includes only biodiesel.

(f) Petroleum products adjustment includes hydrogen/oxygenates/renewables/other hydrocarbons, motor gasoline blend components, and finished motor gasoline.

(g) "Other Oils" includes aviation gasoline blend components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Petroleum Supply Monthly* , DOE/EIA-0109; *Petroleum Supply Annual* , DOE/EIA-0340/2; and *Weekly Petroleum Status Report* , DOE/EIA-0208.

Minor discrepancies with published historical data are due to independent rounding.

Forecasts: EIA Short-Term Integrated Forecasting System.

Table 5a. U.S. Natural Gas Supply, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - April 2022

	2021				2022				2023				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2021	2022	2023
Supply (billion cubic feet per day)															
Total Marketed Production	**97.65**	**101.12**	**101.89**	**104.96**	**103.44**	*105.21*	*106.22*	*107.62*	*108.28*	*109.18*	*110.10*	*110.44*	**101.43**	*105.64*	*109.51*
Alaska	**1.02**	**0.95**	**0.90**	**1.02**	**0.99**	*0.78*	*0.73*	*0.86*	*0.92*	*0.78*	*0.74*	*0.88*	**0.97**	*0.84*	*0.83*
Federal GOM (a)	**2.26**	**2.25**	**1.82**	**2.11**	**2.22**	*2.27*	*2.16*	*2.15*	*2.18*	*2.12*	*2.00*	*1.95*	**2.11**	*2.20*	*2.06*
Lower 48 States (excl GOM)	**94.37**	**97.92**	**99.17**	**101.82**	**100.23**	*102.15*	*103.33*	*104.60*	*105.18*	*106.27*	*107.35*	*107.60*	**98.34**	*102.59*	*106.61*
Total Dry Gas Production	**90.59**	**93.15**	**93.86**	**96.63**	**95.41**	*97.01*	*97.94*	*99.23*	*99.72*	*100.56*	*101.41*	*101.72*	**93.57**	*97.41*	*100.86*
LNG Gross Imports	**0.15**	**0.02**	**0.03**	**0.04**	**0.23**	*0.18*	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.06**	*0.20*	*0.22*
LNG Gross Exports	**9.27**	**9.81**	**9.60**	**10.32**	**11.51**	*12.35*	*12.11*	*12.78*	*13.08*	*12.51*	*12.19*	*12.78*	**9.76**	*12.19*	*12.64*
Pipeline Gross Imports	**8.68**	**6.81**	**7.24**	**7.82**	**8.38**	*6.47*	*6.38*	*6.71*	*7.74*	*6.44*	*6.31*	*6.50*	**7.63**	*6.98*	*6.74*
Pipeline Gross Exports	**8.31**	**8.67**	**8.50**	**8.41**	**8.43**	*8.20*	*9.14*	*9.15*	*9.09*	*9.01*	*9.33*	*9.23*	**8.47**	*8.74*	*9.17*
Supplemental Gaseous Fuels	**0.17**	**0.15**	**0.15**	**0.17**	**0.17**	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.18*	*0.18*	**0.16**	*0.17*	*0.18*
Net Inventory Withdrawals	**17.18**	**-9.12**	**-7.87**	**1.03**	**20.02**	*-11.43*	*-8.20*	*2.53*	*14.21*	*-11.36*	*-8.00*	*2.93*	**0.24**	*0.66*	*-0.60*
Total Supply	**99.18**	**72.53**	**75.31**	**86.96**	**104.27**	*71.84*	*75.22*	*86.91*	*99.99*	*74.47*	*78.57*	*89.51*	**83.44**	*84.48*	*85.59*
Balancing Item (b)	**0.26**	**-0.58**	**-0.21**	**-1.33**	**-0.09**	*-0.16*	*0.03*	*-1.28*	*-1.02*	*-0.67*	*-0.48*	*-1.18*	**-0.47**	*-0.38*	*-0.84*
Total Primary Supply	**99.44**	**71.95**	**75.10**	**85.63**	**104.18**	*71.68*	*75.25*	*85.63*	*98.96*	*73.80*	*78.09*	*88.33*	**82.97**	*84.11*	*84.75*
Consumption (billion cubic feet per day)															
Residential	**25.67**	**7.50**	**3.62**	**14.43**	**26.15**	*8.10*	*3.82*	*16.35*	*24.76*	*8.18*	*3.87*	*16.23*	**12.75**	*13.55*	*13.21*
Commercial	**14.87**	**6.23**	**4.68**	**10.08**	**15.67**	*6.66*	*4.87*	*10.32*	*14.85*	*6.70*	*4.85*	*10.28*	**8.94**	*9.35*	*9.14*
Industrial	**23.81**	**21.46**	**21.14**	**23.44**	**24.88**	*21.82*	*21.64*	*24.32*	*24.25*	*22.02*	*22.27*	*25.28*	**22.46**	*23.16*	*23.45*
Electric Power (c)	**26.79**	**29.20**	**37.94**	**29.47**	**28.74**	*27.38*	*37.04*	*26.33*	*26.31*	*28.92*	*38.93*	*28.01*	**30.88**	*29.89*	*30.57*
Lease and Plant Fuel	**4.87**	**5.04**	**5.08**	**5.23**	**5.16**	*5.24*	*5.30*	*5.36*	*5.40*	*5.44*	*5.49*	*5.51*	**5.06**	*5.27*	*5.46*
Pipeline and Distribution Use	**3.29**	**2.38**	**2.48**	**2.83**	**3.43**	*2.33*	*2.45*	*2.80*	*3.26*	*2.39*	*2.54*	*2.89*	**2.74**	*2.75*	*2.77*
Vehicle Use	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	**0.15**	*0.15*	*0.15*
Total Consumption	**99.44**	**71.95**	**75.10**	**85.63**	**104.18**	*71.68*	*75.25*	*85.63*	*98.96*	*73.80*	*78.09*	*88.33*	**82.97**	*84.11*	*84.75*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,801**	**2,583**	**3,305**	**3,208**	**1,406**	*2,447*	*3,201*	*2,968*	*1,690*	*2,723*	*3,459*	*3,189*	**3,208**	*2,968*	*3,189*
East Region (d)	**313**	**515**	**804**	**766**	**245**	*506*	*792*	*694*	*307*	*613*	*873*	*768*	**766**	*694*	*768*
Midwest Region (d)	**395**	**630**	**966**	**887**	**299**	*566*	*900*	*807*	*367*	*645*	*961*	*850*	**887**	*807*	*850*
South Central Region (d)	**760**	**991**	**1,052**	**1,141**	**588**	*919*	*992*	*1,006*	*722*	*1,024*	*1,085*	*1,085*	**1,141**	*1,006*	*1,085*
Mountain Region (d)	**113**	**175**	**205**	**171**	**91**	*149*	*200*	*183*	*111*	*151*	*213*	*191*	**171**	*183*	*191*
Pacific Region (d)	**197**	**246**	**248**	**218**	**164**	*287*	*298*	*259*	*164*	*271*	*309*	*276*	**218**	*259*	*276*
Alaska	**23**	**27**	**30**	**25**	**19**	*19*	*19*	*19*	*19*	*19*	*19*	*19*	**25**	*19*	*19*

(a) Marketed production from U.S. Federal leases in the Gulf of Mexico.

(b) The balancing item represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas demand.

(c) Natural gas used for electricity generation and (a limited amount of) useful thermal output by electric utilities and independent power producers.

(d) For a list of States in each inventory region refer to *Weekly Natural Gas Storage Report, Notes and Definitions (http://ir.eia.gov/ngs/notes.html)* .

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on April 7, 2022.

The approximate break between historical and forecast values is shown with historical data printed in bold; estimates and forecasts in italics.

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , Minor discrepancies with published historical data are due to independent rounding.

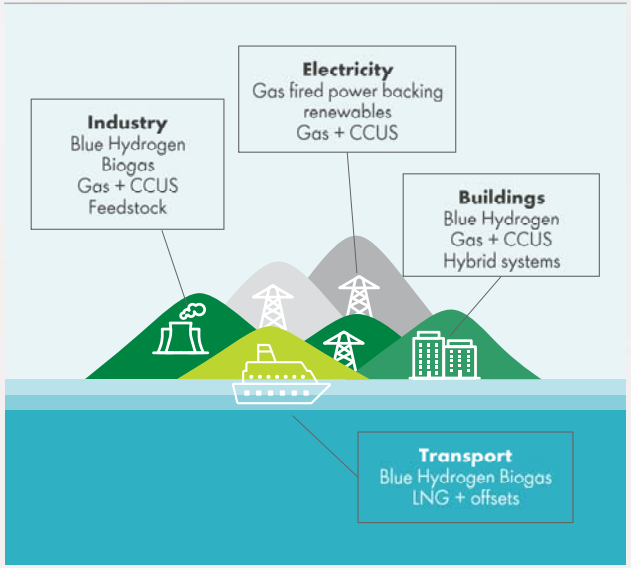
Forecasts: EIA Short-Term Integrated Forecasting System.

LNG OUTLOOK

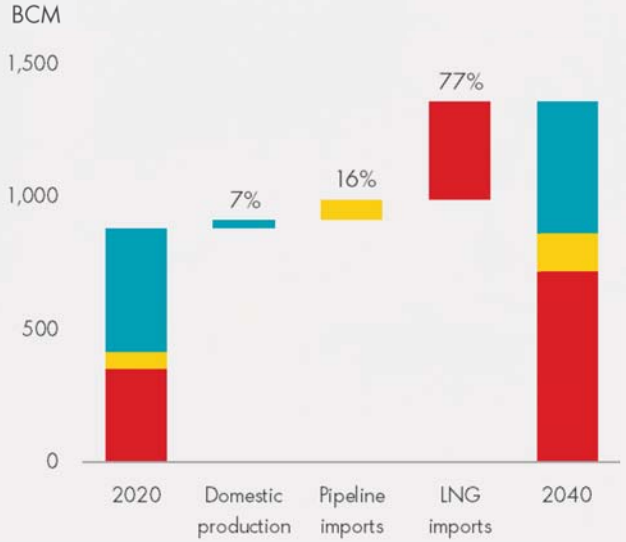
ENERGY SECURITY, EMISSIONS AND ECONOMIC GROWTH IN ASIA TO DRIVE FUTURE LNG DEMAND

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

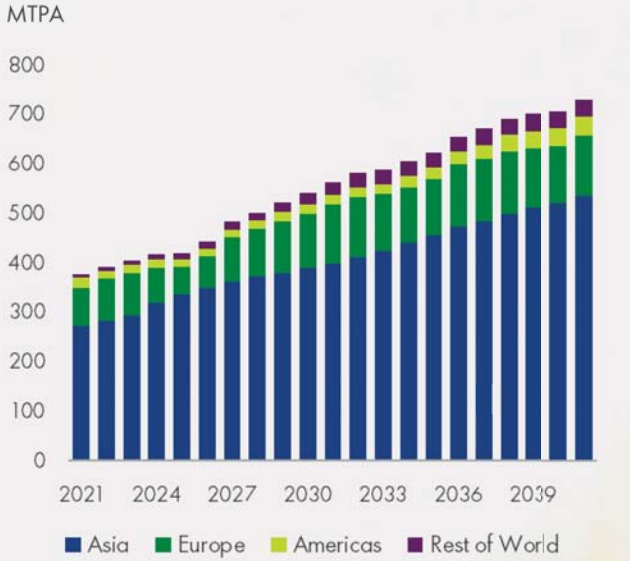
Use of gas in a decarbonised world



Asian gas demand by source



LNG imports by region



Source: Shell interpretation of Wood Mackenzie data

RUN THE BUSINESS

ACTIVELY ADDRESSING OPERATIONAL GREENHOUSE GAS EMISSIONS

Cutting operational emissions

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

Managing GHG intensity

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

Spearheading methane reduction initiatives

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

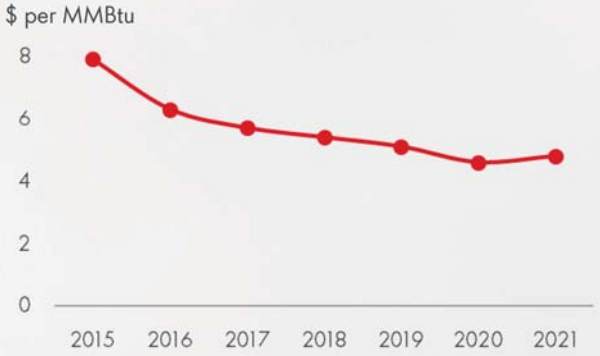
Picture credit: Flylogix

The improved efficiency on well workovers is relative to 2020.

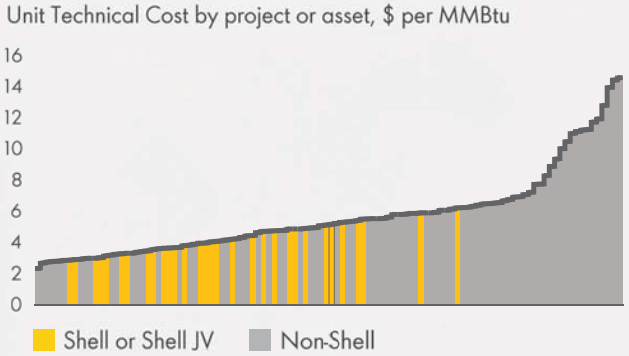
GROW THE BUSINESS

OPTIMISING CAPITAL TO CREATE VALUE

Unit technical cost reduced



Competitive project funnel



Robust project delivery

Structural decrease in cost

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

Commercially competitive

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

Building new capacity

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

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

INTEGRATED GAS PORTFOLIO & MAJOR PROJECTS

KEY

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

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

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

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

INTEGRATED GAS

UPDATE SD21 TARGETS – PROGRESS MADE

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

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

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

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

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

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

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

https://clubofmozambique.com/news/sasol-drops-plan-to-invest-in-pipeline-in-favour-of-lng-imports-214142/

Sasol drops plan to invest in pipeline in favour of LNG imports

3:56 CAT | 13 Apr 2022

Sasol will no longer consider gas supply from a planned pipeline stretching from fields in northern Mozambique to its South African operations as it doesn't want to get stuck with the infrastructure. Sasol CEO Fleetwood Grobler. Image: Bloomberg]

- **Company plans replacing 25% of coal mainly with natural gas**
- **Expects to sign term sheet for LNG imports from Maputo**

Sasol Ltd. will no longer consider gas supply from a planned pipeline stretching from fields in northern Mozambique to its South African operations because it doesn't want to get stuck with the infrastructure as the world shifts away from fossil fuels, Chief Executive Officer Fleetwood Grobler said.

The company, South Africa's biggest fuel producer, in 2020 said it would potentially buy a small stake in the proposed 2,600-kilometer (1,616-mile) African Renaissance Pipeline — valued at $6 billion in 2016 — connecting to discoveries made by TotalEnergies SE and Eni SpA. TotalEnergies last year suspended the development of its find due to an Islamist insurgency.

That type of infrastructure will mean that the company will be "tied to that for 30 or 40 years because that's the nature of the investment," Grobler said in an interview at Sasol's headquarters in Johannesburg. "Gas in the long term is also a fossil fuel and we said we want to get to net zero."

The nation's second-biggest emitter of greenhouse gases has now targeted a 30% reduction in emissions by 2030, largely through replacing a portion of the coal it uses to make synthetic fuel and chemicals, with natural gas.

The company's focus on options that involve less investment reflects a rapidly changing energy landscape that ultimately will see gas demand follow an exit from coal. Sasol is considering liquefied natural gas imports from the Matola terminal planned by TotalEnergies and Gigajoule Group in Mozambique, along with further development of its own fields in the country.

"It's a no-regret move because you know that will deplete and then when you don't need the gas, you don't develop more gas," Grobler said. "You need to bridge 10 or 15 years and then you need to go out."

LNG Imports

Sasol already transports gas to South Africa from Mozambique on the 865-kilometer Rompco pipeline. The fuel is used for all of its Sasolburg operations and for 8% of its Secunda operations — with 40 million tons of coal — which it plans to cut by a quarter — accounting for the remainder.

Sasol cut its stake in the Rompco pipeline last year.

A decline in production from Sasol's Mozambique gas fields can be supplemented by the LNG from Matola that would be converted back to gas and fed into the main line through a connecting pipe by 2026. The company plans to sign a term sheet for supply by the end of the year after assessing the potential effects of demand for the fuel from buyers including state-owned utility Eskom Holdings SOC Ltd., which plans to replace some of its coal-fired power generation with gas.

The changes will switch Sasol's position from a seller to a buyer of natural gas, which could expose it to price swings recently exacerbated by Russia's invasion of Ukraine.

"Hopefully we're beyond that volatility by '26," Grobler said.

By Paul Burkhardt

The Express Tribune
https://tribune.com.pk/story/2349392/pakistan-in-talks-with-russia-for-lng-imports

Pakistan in talks with Russia for LNG imports

Moscow developing $27 billion Yamal Project facility

Zafar BhuttaMarch 24, 2022

ISLAMABAD:

As Russia develops the Yamal LNG project facility -- Islamabad and Moscow are in talks to a multi-billion dollar government-to-government import deal. The Yamal LNG Project includes the development of the giant South Tambey (Tambeyskoye) gas field that is located near Sabetta in the Yamal peninsula in Russia. The Russian government has declared the project to be of national interest at a cost of around $27 billion.

This is a new addition to the energy cooperation between Pakistan and Russia as two countries are already working on different projects including the Pakistan Gas Stream, a gas pipeline from Kazakhstan and an offshore gas pipeline. Sources said the Pakistani government was interested to sign a government-to-government deal with Russia to import LNG to meet its growing gas demand.

They added that Russia was developing the Yamal Project, which would be one of the largest LNG facilities in the world. Russia is also meeting the demand of Europe by exporting gas through a pipeline despite the opposition of the US. The sources said Pakistan LNG Limited was in talks with Russian firms Gazprom and Novatek to import the gas. At present, Pakistan has a space on the second LNG terminal owned by Pakistan Gasport Consortium Limited (PGPC) to import the product despite a fresh deal of imports from Qatar. At present, Qatar controls the Pakistani market in terms of LNG import.

Earlier, Saudi Arabia had dominated the Pakistani oil market. However, Qatar had started supplying LNG to Pakistan. This affected the oil market on the supply of fuel to power plants as they had started using LNG to produce electricity. The sources said Pakistan was currently importing LNG from Qatar and wanted to apply this as a benchmark price for other countries including Russia. They said the benchmark price set by Pakistan might cause hurdles in implementing the LNG deal with Russia. Moreover, the prices of LNG had globally witnessed a sharp increase.

Secondly, the Russia is too far away and Pakistan might face higher freight charges in comparison with LNG cargoes coming from Qatar. However, Russia might have the option to follow LNG cargo swap with other companies operating close to Pakistan that could result in cutting the freight charges. Pakistan meets around 24% of its gas demand through LNG imports. Initially, the PML-N government had planned to utilise LNG in industrial, power and commercial sectors.

https://www.thenews.com.pk/print/944554-singapore-based-guvnor-backs-out-from-4-lng-term-deliveries

Singapore-based Guvnor backs out from 4 LNG term deliveries

By Khalid Mustafa

March 26, 2022

ISLAMABAD: Singapore-based Guvnor has decided not to honour its contract to deliver four LNG term cargoes to Pakistan, which would force the dollar-starved country to purchase costly LNG from the spot market to fulfill its energy needs.

The cargoes were to be delivered in the remaining four months' tenure of Guvnor's five-year term agreement ending July 2022.

"This is a gigantic blow that will force authorities concerned with no option but to purchase costly LNG cargoes at higher prices currently oscillating in global spot market in the range of $32-38 per MMBTU instead of over $10 per MMBTU under term agreement," a senior official in the Energy Ministry privy to the development told The News.

He said the company sold the cargo destined for Pakistan in the spot market for higher profits.

Pakistan LNG Limited (PLL) had inked a five-year contract in June 2017 under which Guvnor was bound to provide the LNG term cargoes at 11.6247 per cent of Brent.

Guvnor has defaulted three times. The company backed out from delivering a cargo on November 19, 2021, then it backed out from the delivery of cargo on January 10, 2022, and then again a delivery for March 11, 2022 never arrived.

Guvnor was to provide Pakistan four LNG cargoes each in April, May and two in June, but the trading company has informed Islamabad that that it would not be able to provide LNG cargoes in its remaining tenure of the term agreement. Cargoes were scheduled to arrive on April 15, May 14, and June 4 and 9, 2022, the official informed.

Petroleum Division spokesman and Joint Secretary Development Syed Zakria Ali Shah has confirmed the cancellations; however, PLL managing director and Guvnor have not responded to the query about the default.

A top official of the Energy Ministry said PLL has decided to procure LNG from the global spot market and to this effect for the month of April, it has issued tenders.

In 2017, PLL also inked a 15-year term agreement with Italy-based ENI, which has defaulted four times. The first default happened in January 2021, when ENI delivered half the cargo. Next it defaulted in November 2021, with the latest cargo cancellation happening in March 2022.

The official record available with The News shows that with the latest defaults, Guvnor has defaulted on seven cargoes whereas ENI defaulted on four cargoes.

Under the 15-year contract, ENI is bound to provide LNG cargo at 12.14 per cent of Brent. In the first and second year, ENI provided LNG at 11.6247 per cent of Brent. In the third and fourth year ENI provided LNG at 11.95 per cent of Brent, whereas in the fifth year and onwards the cargoes were provided at 12.14 per cent of Brent.

March cargo was also fixed at 12.14 per cent of Brent. The agreement with ENI ends in 2032.

The official said that ENI would provide its term cargo due on April 10, 2022 at 12.14 per cent price of Brent under the term agreement.

"The term agreements with ENI and Guvnor signed in 2017 are flawed and not in the interest of the country," the official and Petroleum Division told The News. "In case LNG trading companies commit default, PLL can impose a penalty of 30 percent of the term cargo price and not more than that."

However, he said, the PLL is bound to pay 100 percent price of the term cargo under take or pay agreement if Pakistan, for any reason, cannot absorb the cargo in its system. In the wake of the flawed agreement, LNG trading companies do not hesitate to commit default as they are ready to pay 30 percent of the term cargo which they sell in the market for windfall profits.

India on its way to becoming global energy superpower, says Union minister Puri
2022-04-11 16:15:22.894 GMT

(PTI) -- India is on its way to become a global energy superpower in terms of consumption and production, Union Minister for Petroleum and Natural Gas Hardeep Singh Puri said here on Monday.

Addressing the passing-out students of Pandit Deendayal Energy University virtually, Puri said though India had the resources, exploration and production of fossil fuel and gases "remain stagnant".

"You are entering your professional life at a time when India is well on its way to become a global energy superpower. India will be the energy superpower of the world by the time we will be a USD 10 trillion economy in 2030," said Puri in his virtual address.

"Global energy superpower means we will set the pace for global consumption, becoming a significant producer by way of exploration and production of different sources of energy," he added.

For Prime Minister Narendra Modi, energy is the priority area, mainly because 85 per cent of India's crude and 55 per cent gas requirement are met through imports, and there was a need to switch to green energy, the minister said.

"For many years, we allowed exploration and production to remain stagnant. Now, we have increased that. We had the resources, but we allowed ourselves to be import dependent," said the minister, adding that India's per capita fuel consumption is three times the global per capita consumption.

Puri said the PM has set a target of 20 per cent biofuel or ethanol blending by 2025, adding that 20 per cent blended fuel will be made available in small quantities from April 1, 2023.

India's liquified natural gas regasification capacity has gone up from 21 million metric tonnes per annum (MMTPA) in 2014 to 42 MMTPA now, while the aim was to increase the country's overall LNG regasification capacity to 62.5 MMTPA in the next few years, he said.

"India's refining capacity has increased from 214 MMTPA to 250 MMTPA, and we have set a target of reaching 400 MMTPA in the next few years. Similarly, we aim to increase the gas pipeline network from 18,500 kilometers to 32,000 kilometers in the next five years," the minister said.

On the occasion, PDEU president and industrialist Mukesh Ambani said India is not only poised for a strong economic recovery, but also better equipped to deal with any future wave of the COVID-19 pandemic.

"It is an exciting new world in the midst of a fusion of two big revolutions, the clean energy revolution and the digital revolution. The combination of these two revolutions will change the very character of our lives," Ambani said.

"These two revolutions will fundamentally transform every activity in modern life and every sector of the economy,

including agriculture, education, industry, transport and entertainment," he added. PTI PJT PD BNM
BNM 04112140

-0- Apr/11/2022 16:15 GMT

https://www.reuters.com/business/sustainable-business/japan-boost-investment-role-upstream-lng-projects-2022-04-15/?taid=6259353dd7fd76000187b457&utm_campaign=trueAnthem:+Trending+Content&utm_medium=trueAnthem&utm_source=twitter

April 14, 202210:05 PM MDTLast Updated 7 hours ago

Japan to boost investment role in upstream LNG projects

Reuters

Japan's new Economy, Trade and Industry Minister Koichi Hagiuda wearing a protective mask amid the coronavirus disease (COVID-19) outbreak, speaks at a news conference in Tokyo, Japan, October 5, 2021. REUTERS/Kim Kyung-Hoon

TOKYO, April 15 (Reuters) - Japan plans to step up its investment role in upstream projects for liquefied natural gas (LNG), to spur new development and boost fuel offtake by its companies, the industry minister said on Friday.

Investment in new LNG development worldwide has dropped significantly as a global trend toward decarbonisation grows, although demand, especially in Asia, had risen, even before the Ukraine crisis, Koichi Hagiuda said.

"Russia's invasion of Ukraine has intensified competition for purchasing LNG, raising concerns about stable supply of the fuel for Japan," he told a news conference.

"The government needs to come to the forefront to secure LNG through cooperation with private the sector."

The government aims to provide 'risk money' through the state-run Japan Oil, Gas and Metals National Corp (JOGMEC) for existing LNG projects that can boost output quickly via expansion, he said, but gave no details.

A meeting of G7 energy ministers early in March recognised the importance of investments in the LNG sector to ensure energy security, the minister added.

The Ukraine crisis, triggered by what Moscow has called a "special military operation", spotlighted Japan's role in the Sakhalin-1 and Sakhalin-2 energy projects in Russia, as Western oil majors have decided to pull out of the country.

Hagiuda has said Japan would hold the concessions in both projects as they are stable sources of long-term and inexpensive energy, but would also work to cut dependence on Russian energy by diversifying sources of supply. read more
Russia accounted for 8.8% of Japan's LNG imports in 2021, 3.6% of crude imports and 12.5% of thermal coal imports. read more
Reporting by Yuka Obayashi; Editing by Clarence Fernandez
Our Standards: The Thomson Reuters Trust Principles.

Key LNG trade highlights:
Week of April 4-10, 2022

- **Spot trade:** The share of spot volume in total global liquefied natural gas (LNG) trade was 23% for the week of April 4-10, falling from 25% the week before. Spot deliveries into South Asia increased by 0.33 million tons, mostly to India and Bangladesh.
- **Contract deliveries:** Global LNG trade fell by 5% last week as a result of lower contract deliveries to China, South Korea and markets in Southeast Asia. Northwest Europe saw contract volume deliveries rise by 0.33 million tons with more than half of the increase delivered into the U.K.
- **El Salvador first import:** Bilbao Knutsen delivered a cargo to the El Salvador's floating storage and regasification unit on April 1, signaling the country's first LNG import. LNG is sourced from Trinidad.
- **Diversions to Europe:** British Listener loaded at Freeport LNG and was initially heading to Asia. The ship got diverted and crossed the Panama Canal back and is now signaling Gibraltar for April 24 arrival. Another Freeport cargo, onboard Prism Brilliance, was approaching Panama but is now signaling Milford, U.K. for delivery on April 13.
- **Europe LNG deliveries:** Imports to Northwest Europe and Italy have accelerated from March as winter ended in Asia. The region received 1.75 million tons of LNG from April 4-10, almost 21% higher than the same period in March. Supply from the U.S. increased to 42% of the total weekly imports, compared to 30% in the same week in March, as U.K., Italy and Belgium imported more U.S. cargoes. Qatari deliveries are up 72% from the same week in March as production in Qatar appears to be recovering from the lows seen in February. Supply from Russia stayed flat from the same week in the previous month.
- **Transits:** Weekly laden LNG vessel transits via key routes reached nine cargoes, down 10 cargoes week-on-week, mostly due to a drop in the Suez Canal crossings. Suez Canal transits fell to five from 12 the week before. One U.S. cargo has taken the Suez route this month to deliver LNG to North Asia (as of April 10), compared to zero in March. Panama Canal saw three crossings compared to four last week. Cape of Good Hope transits dropped by two cargo from the previous week.
- **LNG on water:** Bloomberg's Index for loaded LNG tankers on the water for at least 20 days or more rose 65% week-on-week as cargoes from the U.S. increased.
- **Weather forecasts** (as of April 10)**:** Europe continues to see colder-than-normal weather in April. North Asian demand is likely to stay weak as summer started. China's LNG imports will be limited due to lower gas demand from industry and transport as the spreading virus limits activity. Restocking demand could come from Japanese buyers seeking to refill LNG inventories to prepare for summer.
  - *See BNEF analysis: Covid in China Allows More LNG to Europe as Summer Starts (terminal)*

7.6 million tons

Total LNG deliveries for the week

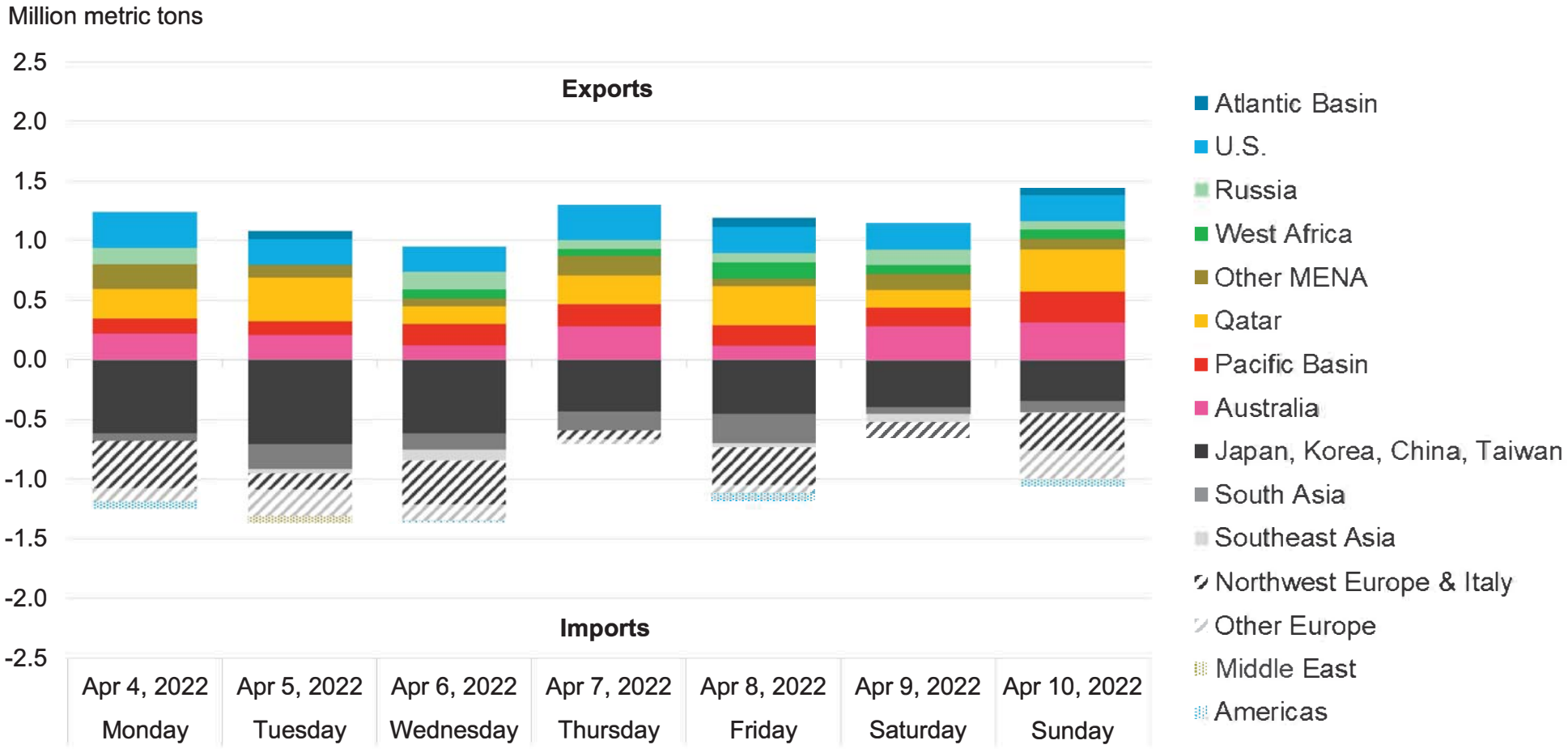
23%

Spot LNG share of total weekly trade

3 days

Panama Canal southbound wait time

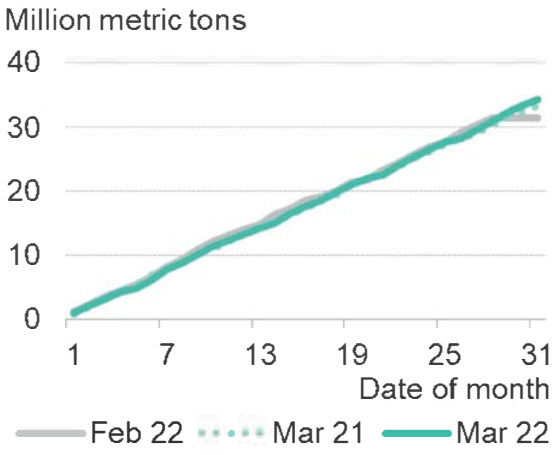
Weekly LNG trade balance



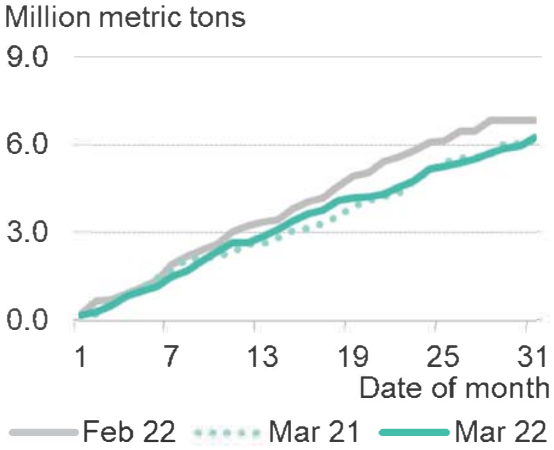
Source: Bloomberg AHOY JOURNEY <GO>, BloombergNEF. Note: MENA is Middle East and North Africa. Imports based on arrival dates; exports based on departure dates. Positive figures in demand regions indicate re-exports and/or transship load.

Cumulative LNG imports
(March 2022)

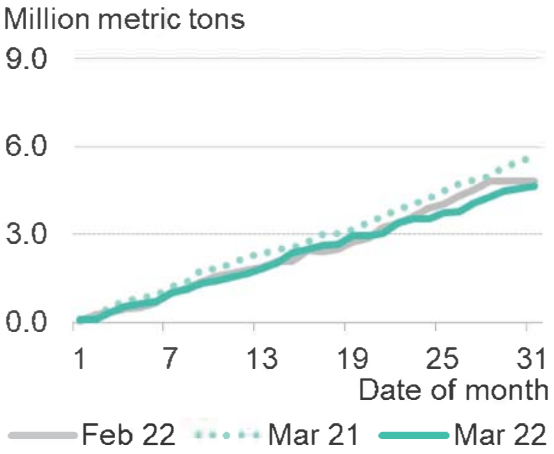
Global imports



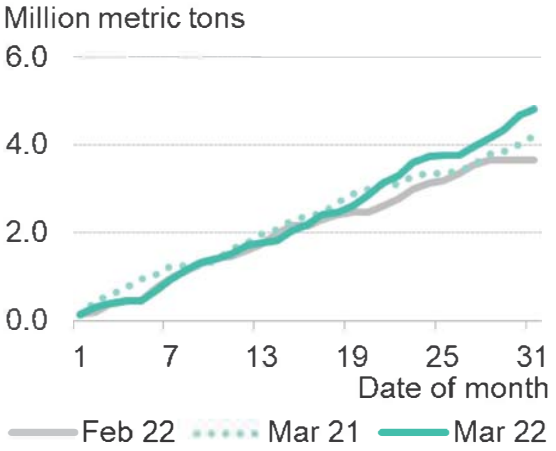
Japan



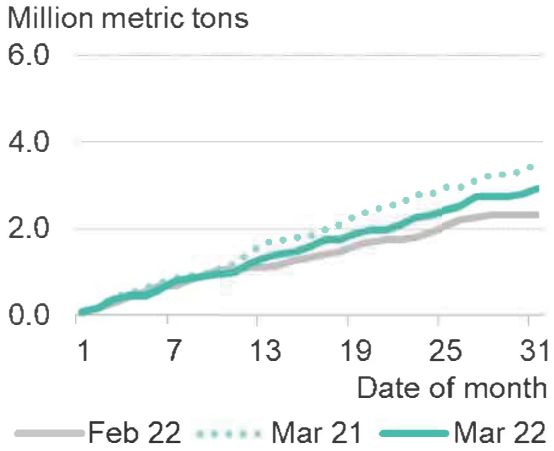
China



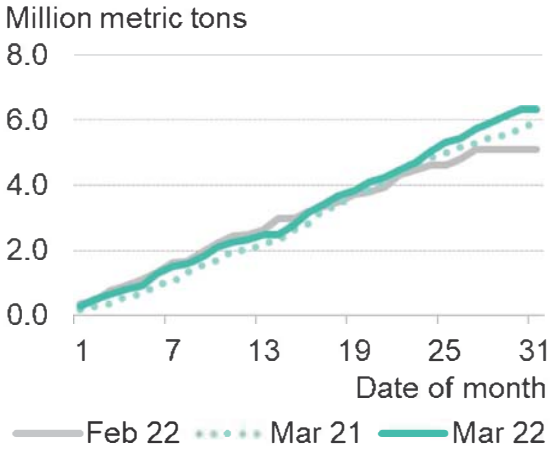
South Korea



South Asia



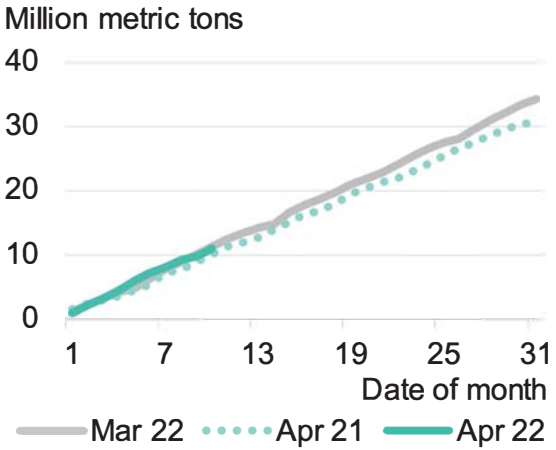
Northwest Europe & Italy



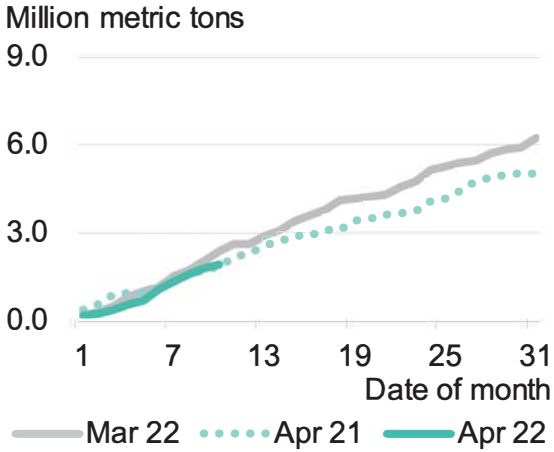
Source: Bloomberg AHOY JOURNEY <GO>, BloombergNEF. Note: Date is arrival date.

Cumulative LNG imports
(As of April 10, 2022)

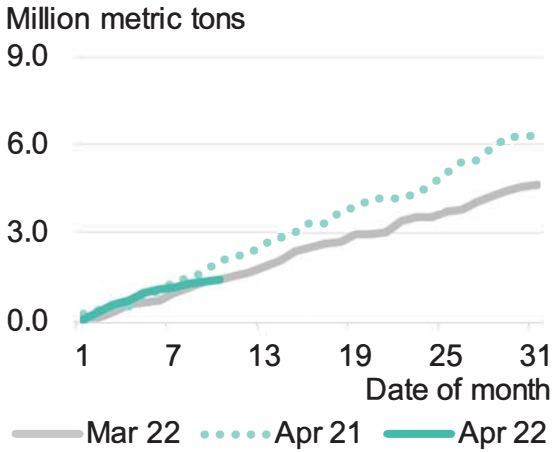
Global imports



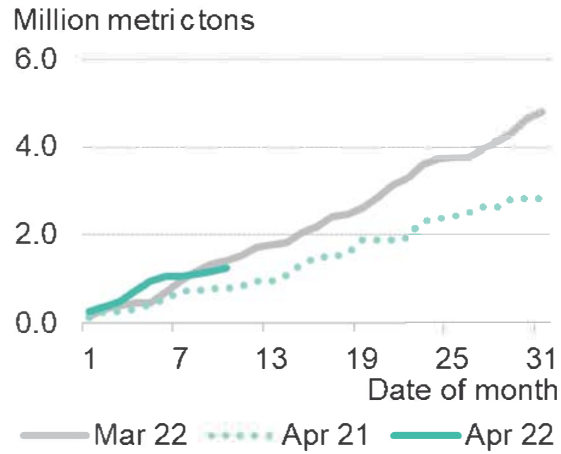
Japan



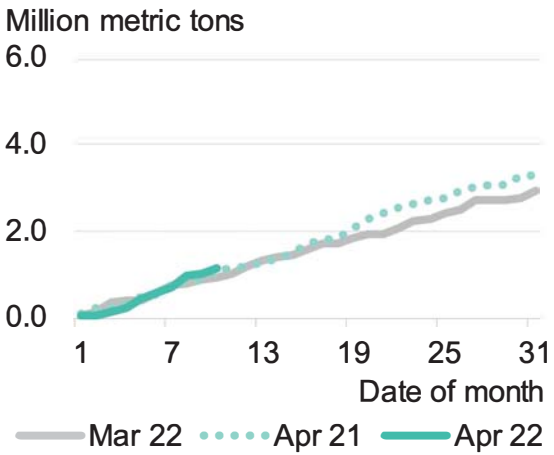
China



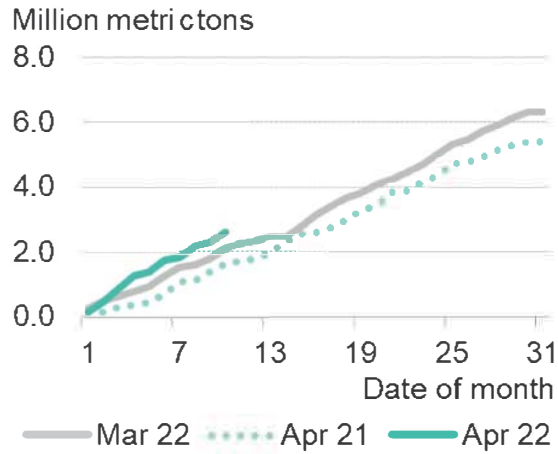
South Korea



South Asia



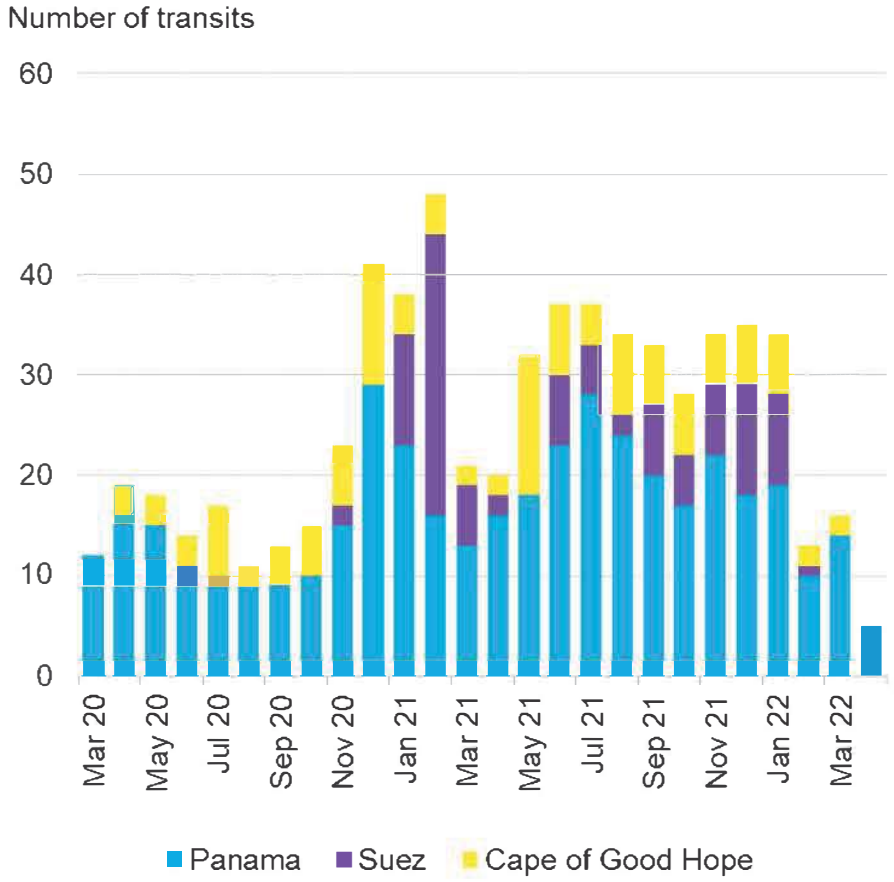
Northwest Europe & Italy



Source: Bloomberg AHOY JOURNEY <GO>, BloombergNEF. Note: Date is arrival date.

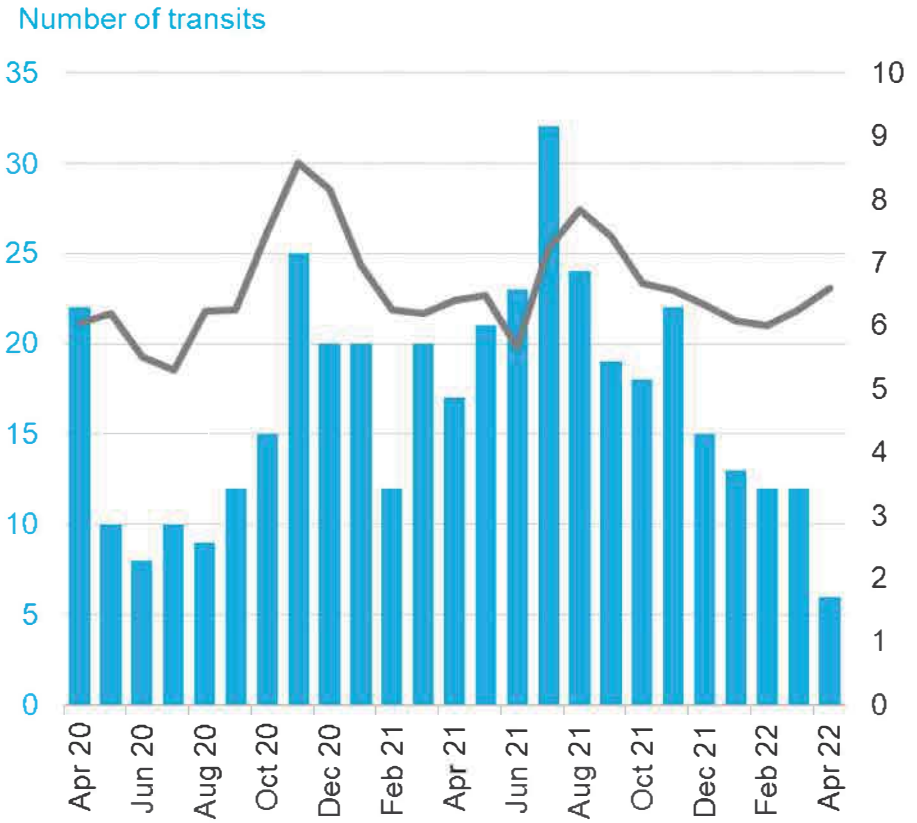
U.S. LNG transit routes
(As of April 10, 2022)

All U.S. LNG to Japan-Korea-China-Taiwan region by route



Source: BloombergNEF. Note: Date is by arrival date. Chart only shows laden journeys.

U.S. Gulf Coast LNG Panama Canal transits



Source: BloombergNEF. Note: Chart only shows laden journeys. Date is by crossing date. Days to Panama Canal refers to the time between vessel departure date from U.S. Gulf Coast loading point to entry of the Panama Canal.

https://www.transmountain.com/news/2022/trans-mountain-expansion-project-celebrates-50-construction-completion?utm_source=Trans+Mountain+Updates&utm_campaign=e2b201f2f4-EMAIL_CAMPAIGN_12_2_2021_15_6_COPY_01&utm_medium=email&utm_term=0_f287e4f791-e2b201f2f4-30713878

Trans Mountain Expansion Project Celebrates 50% Construction Completion

Apr. 12, 2022

Achieving construction milestones with collaboration from Indigenous Peoples, pipeline workers, contractors and local communities.

Construction on the Trans Mountain Expansion Project has reached a major milestone with more than 50 per cent completion as of March 2022. The halfway mark of construction for the Expansion Project includes more than 412 kilometres of pipe in the ground, 574 kilometres of the pipeline right-of-way stripped and graded, 471 kilometres of pipe welded and the completion of 32 major trenchless crossings.

“We are proud to celebrate the halfway mark of the Trans Mountain Expansion Project. The way we are constructing this Project reflects a new approach to building major projects in Canada” said Rob Van Walleghem, Interim President, Trans Mountain Corporation. “I want to personally thank Ian Anderson, who retired earlier this month after a long tenure with the company. His leadership and guidance have made this milestone a reality.”

Since construction began on the Expansion Project, more than 20,000 people have been employed across Alberta and British Columbia. Trans Mountain has negotiated agreements with local governments across BC and Alberta, dedicating more than $16 million to community legacy projects, such as trails and recreational infrastructure improvements, that will have positive and lasting impacts on the lives of thousands of Canadians.

“This celebration of the halfway mark of construction was made possible by the hard work and dedication of each and every person on our workforce. As we continue construction in 2022 and 2023, we will continue to work as one team and create long-term benefits for Canadians through this world-class project,” said Corey Goulet, Executive Vice President, Execution, Trans Mountain Expansion Project.

Once complete, the Expansion Project will generate significant benefits to Canadian crude oil producers and in turn, to all Canadians by providing enhanced access to alternative markets accessible by tanker from Westridge Marine Terminal providing expanded access from Western Canada.

https://www.transmountain.com/news/2022/trans-mountain-corporation-updates-expansion-project-cost-and-schedule

Trans Mountain Corporation Updates Expansion Project Cost and Schedule

Home › News

Tags Expansion Project

Feb. 18, 2022

Improvements and Enhancements to Expansion Project is Building Legacy for Canadians

As we enter the second half of construction on the Trans Mountain Expansion Project, and after more than a decade of review, engagement, planning and engineering, this complex and large scale Project is making steady progress and setting new standards for major pipeline project execution, while overcoming significant challenges and obstacles.

Trans Mountain has completed a full review of its Project schedule and cost estimates. With all work fronts now active, mechanical completion of the Project is anticipated to occur in the third quarter of 2023. The total Project cost has increased from $12.6 to $21.4 billion. This estimate includes the costs of all known Project enhancements, changes, delays and financing, including impacts of the COVID-19 pandemic and the substantial preliminary impacts of the November 2021 BC floods in the Hope, Coquihalla and Fraser Valley areas.

“The progress we have made over the past two years is remarkable when you consider the unforeseen challenges we have faced including the global pandemic, wildfires, and flooding,” said Ian Anderson, President and CEO of Trans Mountain Corporation. “At every step of the way, we have found solutions and responded. As a result, the Project is advancing with significantly improved safety and environmental management, and with a deep commitment to ensure this Project is being built the right way.”

Notwithstanding the cost increase and revised completion schedule, the business case supporting the Project remains sound. Canada will benefit from the economic and tax contributions made by the Project once it is in operation. Trans Mountain will pay billions in taxes and royalties to the federal and provincial governments through the construction and operation of the Project over the next 20 years. In addition, Trans Mountain will make payments to British Columbia of between $25 million and $50 million annually, for a total contribution over a 20-year period of up to $1 billion. These funds are to be used by the BC Clean Communities program to fund local environmental projects in the province. In addition, Trans Mountain has negotiated agreements with local governments across BC and Alberta dedicating more than $16 million to community legacy projects such as trails and recreational infrastructure improvements that will have positive and lasting impacts on the lives of thousands of Canadians.

The Project proudly embodies unprecedented levels of involvement, and shared decision making, with Indigenous Peoples and communities. Through job creation, procurement opportunities, partnerships, and involvement in the environmental management and oversight process, long-term legacy and economic benefits for Indigenous Peoples are being created. Approximately 11 per cent of the Project workforce is Indigenous and Trans Mountain has close to 4,000 contracts with Indigenous businesses and partnerships worth over $2.7 billion. Route changes and new construction techniques have been undertaken as a result of continuous Indigenous engagement and the Project now has Mutual Benefit Agreements (MBA’s) with 69 Indigenous communities.

The overall change in Project costs is summarized by the following material impact areas: Project enhancements, scheduling pressures, safety and security requirements, financing costs, as well as other external challenges including the COVID-19 pandemic and the impacts of the 2021 BC flooding.

Project enhancements total approximately $2.3 billion of the increase. This includes a substantial increase in trenchless construction activity, significantly more MBAs with Indigenous communities that provide enduring economic benefits, the installation of advanced leak detection systems, and new unplanned scope and route changes that avoid culturally and environmentally sensitive areas.

Schedule pressures total approximately $2.6 billion of the increase and include permitting processes required for the several thousand permits that are required for the Project, and significant construction challenges in both marine and difficult terrain which have extended the schedule into late 2023.

The Project has had to contend with generational events such as the COVID-19 pandemic and recent extreme weather in BC. These events, combined with contractor productivity shortfalls in some areas, have resulted in a $1.7 billion increase. The combined effects of extreme weather and COVID measures is approximately $1.4 billion.

Safety and security requirements total approximately $500 million of the increase. These cost impacts include the voluntary two-month stand-down across the Project in late 2020, including the related termination and replacement of a major construction contractor; additional safety and security measures across the project; and worker safety measures during the extreme heat and fires in BC last year.

Financing costs have increased by approximately $1.7 billion. The increase in financing costs will be incurred due to the increased cash expenditure required to construct the Project, and the extended construction schedule. Financing costs include interest paid to Trans Mountain's owner for money borrowed for the Project as well as an imputed non-cash cost of equity capital provided by the owner of the Project.

https://www.canada.ca/en/department-finance/news/2022/02/remarks-by-the-deputy-prime-minister-and-minister-of-finance-regarding-the-emergencies-act-and-the-trans-mountain-expansion-project.html

Remarks by the Deputy Prime Minister and Minister of Finance regarding the *Emergencies Act* and the Trans Mountain Expansion Project

From: Department of Finance Canada

Speech

February 18, 2022

I want to first provide a brief update on the financial measures that we introduced through the Emergencies Act to target the illegal blockades and those who fund them.

As I said yesterday, information is already being shared between our law enforcement agencies and Canada's financial services providers.

Action is being taken.

So let me repeat again what I said yesterday:

If your truck is being used in these protests, your bank account will be frozen, and your insurance will be suspended. The consequences for taking part in these illegal blockades are real.

If you are in Ottawa, it is time for you to go home. If you are thinking about driving to Ottawa to take part in the illegal occupation this weekend, you should not.

But I also want to say this: we have taken no joy in invoking these measures. They are unprecedented, and for good reason.

The vast majority of Canadians are hardworking and law-abiding. We are all sick and tired of a pandemic that we have been dealing with for almost two years.

When this crisis is over, all of us are going to need to work hard to heal our country.

But today, our economy and our democracy are facing a serious and foreign-funded threat.

These illegal blockades and occupations cannot be allowed to usurp the authority of democratically-elected governments.

They cannot be allowed to threaten peace, order, and good government — and they will not be allowed to do so.

These illegal blockades and occupations will end, and they will end for good.

This afternoon, I also want to speak to the news that was released by the Trans Mountain Corporation a short time ago.

TMC today announced their increased cost estimates, and the extended completion date for the Trans Mountain Expansion Project to the third quarter of 2023.

Reasons cited include the pandemic, the BC floods, and significant but necessary changes to deal with the terrain and to protect the environment.

However, I want to assure Canadians that there will be no additional public money invested in TMC.

TMC will secure necessary funding to complete the project through third-party financing, either in the public debt markets or with financial institutions.

Both BMO Capital Markets and TD Securities have been engaged by the government to provide advice on financial aspects of the project.

Their analyses confirm that public financing for the project is a feasible option that can be implemented swiftly. They have also confirmed that the project remains commercially viable.

Our government acquired TMC and the Trans Mountain Expansion Project in 2018 because we knew it was a serious and necessary investment. This project is in the national interest and will make Canada and the Canadian economy more sovereign and more resilient.

The transition to a net-zero economy will take many years. We will get there, but during that transition, our natural resources are needed globally.

The Trans Mountain Expansion will ensure Canada receives fair market value for our resources. That is not the case today, while we are dependent on the United States for market access.

Getting our resources to those global markets will be good our economy, and it will be good for our workers.

TMC has signed agreements with 75 Indigenous communities worth more than $580 million, and the project will generate over $2.7 billion in Indigenous-based contract awards.

Our government has also been working with Indigenous communities on further economic participation in Trans Mountain for more than two years, and we will announce the next step toward that important objective later this year.

As we have said from the very beginning, our government does not intend to be the long-term owner of the project. We will launch a divestment process in due course.

And before I close, on behalf of the Government of Canada, I want to publicly thank Ian Anderson, who is retiring as the President and CEO of Trans Mountain after many years of service.

https://www.argusmedia.com/en/news/2321293-pemex-hsfo-unlikely-russiaus-gulf-replacement?backToResults=true

Pemex HSFO unlikely Russia-US Gulf replacement

Published date: 12 April 2022

Mexican state-owned Pemex's overabundance of high sulphur fuel oil (HSFO) may not prove a good replacement for banned Russian fuel oil at US Gulf coast refineries, because of both cost and quality issues.

Russian Urals-derived M100 fuel oil regularly makes its way to US refiners as a coker feedstock. In February as much as 53pc of US Gulf coast fuel oil imports came from Russia, according to Vortexa, versus about 24pc from Mexico. In March Russian fuel oil imports rose to 71pc while Mexican imports shrank to only 5pc.

But with the US banning all Russian products and crude imports US refiners must look elsewhere to fill that need.

Pemex has a surplus of fuel oil, with its six domestic refineries producing more of it than any other product, even gasoline, in 2021, at 244,300 b/d. That is up by 39pc from 2020.

But despite this large supply relatively close at hand, more than 50pc of anticipated US Gulf April cargoes are expected to arrive from the Middle East, including countries such as Kuwait, Oman, Saudi Arabia and Iraq, according to Vortexa. Only 6pc, or 13,620 b/d, of April US Gulf coast imports will originate from Mexico, with the remaining 42pc outsourced from pre-ban Russian cargoes.

Mexican HSFO lost out to Russian M100 in the past because of Russian tax regime considerations that encouraged Russian companies to export large volumes of VGO and residual feedstocks, Robert Auers, consultant at Turner Mason and Company, told *Argus*.

Pemex HSFO generally also has lower yields of gasoline and gasoil, as Pemex's fuel oil output has more than 0.5pc of sulphur, limiting its ability to place it in other markets or for shipping after the International Maritime Organization's 2020 restrictions on marine fuel oil sulphur levels.

Besides the quality, Mexico's geographic proximity appears to be offset by lower freight costs for Middle East shipments. Dirty tanker rates from the Mideast Gulf to the US Gulf coast for 280kt vessels have been 30pc lower on average since 14 March through 11 April, according to *Argus* assessments, with the Mideast-USGC rate as much as 53pc below the Mexico-USGC rate at $7.08/t versus $10.84/t on 25 March. As of 11 April, the Mideast-USGC rate was 18pc lower than the Mexico-USGC rate, as both increased up to $12.03/t and $14.19/t, respectively.

As a result of the ongoing freight disparity, the US Gulf coast may continue to seek Middle Eastern barrels in the near-term over Mexican feedstock to fulfill robust coker economics. This dynamic may shift as Russian pre-ban shipments finalize their arrivals up to 22 April, and the Gulf expands HSFO outlets.

By Sergio Meana, Kayla Meyertons and Dylan Chase

https://www.eluniversal.com.mx/nacion/amlo-afirma-que-en-julio-estara-lista-dos-bocas-verdad-rocio-dice-titular-de-sener

AMLO affirms that Dos Bocas will be ready in July: "Isn't that right, Rocío?", asks the head of Sener

During his report, AMLO emphasized that in less than 3 months the refinery will be finished and in operation; in full speech he questioned Rocío Nahle

Photo: Diego Simón Sánchez/ EL UNIVERSAL

NATION 04/12/2022 18:52 Writing Updated19:53

President **Andrés Manuel López Obrador** assured that in July of this year, the **Dos Bocas refinery** will start operations. This during his first quarterly report of 2022, 100 days into his fourth year in the Presidency of Mexico.

During his message, AMLO emphasized that in less than three months the **Dos Bocas refinery** will be finished and in operation; and upon assuring the opening date, the president took a moment to look for the Secretary of Energy, **Rocío Nahle** , among the crowd and confirm the information by saying “right, Rocío?” and flash a brief smile.

“In July, the new Dos Bocas refinery, the Olmeca refinery in Paraíso, Tabasco, will start operations, right, Rocío?” said the president.

It should be noted that **EL UNIVERSAL** published in its print edition this Tuesday that the **Mexican government** is going to inaugurate the "Olmeca" refinery on July 2, which will be the first to be built in the country in four decades.

Dos Bocas Refinery will be on time, but at additional cost

The head of the Secretary of Energy (**Sener**), Rocío Nahle, specified that the opening of the new refinery will imply a higher cost than the initial calculation, since it is projected to cost 9.8 billion dollars, instead of 8.9 billion. estimated at the beginning, since there was an extension of the project.

A little less than three months after its inauguration, the flagship work of the **AMLO** government is 90% complete.

Dos Bocas could have cost twice as much

Rocío Nahle told **EL UNIVERSAL** that if the construction of the refinery had begun in the second half of the six-year term, its cost would double due to world inflation.

"Today this [Olmeca] refinery, anywhere in the world, is made with at least 20 billion dollars, [for example] steel has risen 300% since we started work," explained the secretary.

From his point of view, there are many successes in the project and the first is that it obtains an **infrastructure** that Mexicans need.

AMLO talks about the electricity industry

During his 13th government report, AMLO spoke about the electricity industry, the country's energy sovereignty and highlighted the rehabilitation of six refineries, the purchase of the Deer Park refinery in Texas and assured that in July of this year the Olmeca refinery will be operating .

He also said that the Tula coking plant will be finished next year, with which he stressed that "we will be self-sufficient in gasoline, diesel and jet fuel."

He also announced that his government plans to build another coking plant in Salina Cruz Oaxaca in 24 months.

AMLO Says Mexico to Refine Less Crude and Export More on Rally
2022-03-31 16:29:20.122 GMT

By Amy Stillman and Max de Haldevang
(Bloomberg) -- Mexico will refine less of its oil this year to take advantage of an international price rally, putting on hold the nationalist president's goal of producing all of its own fuel at home.

"We launched a new plan because the price of crude oil is high and we are in the process of modernizing the refineries, so we are taking advantage now that the price is high to dedicate more resources and time to the rehabilitation of the plants," President Andres Manuel Lopez Obrador said during his daily press conference on Thursday.

Mexico will reduce its crude processing to 850,000 barrels a day from a goal of about one million barrels a day, he said. The country processed 846,329 barrels a day of crude in February, and it averaged 711,612 barrels a day last year, according to data from Pemex.

Bloomberg News previously reported that the price rally due Russia's invasion of Ukraine has temporarily delayed Lopez Obrador's plan to halve crude exports as part of his energy self-sufficiency goal. The president, known as AMLO, has sought to reverse the liberalizing reforms of his predecessor and cast off the country's dependence on foreign interests by increasing Mexico's refining output and reducing its reliance on fuel imports.

Higher prices have thrown a spanner in the works, as AMLO has been forced to use the additional revenues from Petroleos Mexicanos's oil sales abroad to offset the higher cost of importing fuel to avoid a gasoline price spike for consumers, known in Mexico as a "gasolinazo".

Read more: Mexico finance chief says subsidies work even with $155 oil (1)

AMLO campaigned on a promise to end high electricity and fuel prices for Mexicans by building a new refinery to process more of the country's crude at home and reigning in foreign companies, which he's blamed for overcharging consumers and pillaging the country's oil riches.

The government calculates that it can afford to subsidize fuel with prices up to $155 per barrel without hurting public finances, Finance Minister Rogelio Ramirez de la O told Bloomberg News last week. West Texas Intermediate crude oil for May delivery fell Thursday, trading near $104, but was still heading for a monthly gain.

--With assistance from Carolina Gonzalez.

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To view this story in Bloomberg click here:

https://blinks.bloomberg.com/news/stories/R9M8KYDWX2PZ

https://www.forbes.com.mx/estados-tendran-hasta-10-mil-mdp-mas-que-en-2021-por-alto-precio-del-petroleo/

Forbes Staff

March 31, 2022 @ 11:11 am

States will have up to 10 billion pesos more than in 2021 due to high oil prices

The president reported that the surplus obtained from the sale of oil will be used to increase the resources of the states.

President Andrés Manuel López Obrador reported that the surpluses obtained from the sale of oil prices will be used to increase federal resources sent to the states, so that each entity will have between 8 and 10 billion pesos more than in 2021.

"With what we are obtaining from the surplus due to the high prices of crude oil, it is enough for the gasoline subsidy. It doesn't mean that we have to sell gasoline to our friendly neighbors in the United States, our consumption is increasing, it doesn't, it's enough for us to sell gasoline cheaper than it is sold in the United States. The subsidy is enough for us, we have more than enough; that is to say, we have utility and we are going to divide it, a part is for the states and it is a shareable income", said the president.

Due to these surpluses, he pointed out that he has already informed the governors of Nuevo León, Samuel García, and of Jalisco, Enrique Alfaro, that they will have 10 billion pesos more than in 2021.

“This means that if a crude oil price was established in the approved Revenue Law and the price is higher, if there is a surplus, it is divided and delivered to the states. Now that the governors of Nuevo León and Jalisco have been there, they have been informed that they will have approximately 10 billion pesos in participation increases in Nuevo León and Jalisco compared to last year,” he said.

The head of the Executive mentioned that from the rest of the entities, each one will have between 8 to 10 billion additional pesos compared to last year.

He also pointed out that another part of the surplus will be to continue subsidizing the price of gasoline so that the cost of these to users is not increased.

In addition, he reported that his government is applying an "emerging plan" to take advantage of high crude oil prices to modernize refineries.

“Yes, we are maintaining a plan that we started, an emerging plan, because the price of crude oil is high and we are in the process of modernizing the refineries. We are taking advantage now that the price is high to dedicate more resources and time to the rehabilitation of the plants. So, that's why from about one million barrels per day processed in the refineries it will decrease to 850 thousand, because we are taking advantage to rehabilitate them”, he mentioned.

Oil Market Highlights

Crude Oil Price Movements

Crude oil spot prices rose for the third-consecutive month in March. The North Sea Dated benchmark gained more than $20/b on a monthly average and WTI gained almost $17/b, on the back of escalating geopolitical tensions in Eastern Europe and concerns this might result in large oil supply shortages, amid trade dislocations. The OPEC Reference Basket price increased $19.53, or 20.8%, to settle at $113.48/b. Oil futures prices witnessed elevated volatility due to the uncertain short-term oil supply and demand outlook. The ICE Brent front month rose $18.36, or 19.5%, to average $112.46/b and NYMEX WTI gained $16.63, or 18.1%, to average $108.26/b. Consequently, the Brent/WTI futures spread widened further by $1.73 to average $4.20/b. The market structure of all three major crude benchmarks – ICE Brent, NYMEX WTI and DME Oman – remained in steep backwardation. Hedge funds and other money managers cut net long positions in Brent and WTI-related futures contracts.

World Economy

World economic growth in 2022 is revised down to 3.9% from 4.2% in the previous month's assessment. This takes into account the impact of the conflict in Eastern Europe, as well as the ongoing effects from the pandemic, with the risks skewed to the downside. This follows growth of 5.8% in 2021, which represents a minor revision from last month. US GDP growth for 2022 is revised down to 3.8% from 4%, after growth was reported at 5.7% for 2021. Euro-zone economic growth for 2022 is revised down to 3.5% from 3.9%, following growth of 5.3% in 2021. Japan's economic growth for 2022 is revised down to 1.9% from 2.2%, after growth of 1.7% in 2021. China's 2022 growth is revised down to 5.3% from 5.6%, after growth of 8.1% in 2021. India's 2021 GDP growth is reported at 8.1%, while the growth forecast for 2022 remains at 7.2%. Brazil's 2022 growth is revised down to 1.2% from 1.5%, following growth of 4.6% in 2021. Russia's 2022 growth is revised down to show a contraction of 2%, following reported growth of 4.7% in 2021. The continuing pandemic, rising inflation, aggravated supply chain issues, high sovereign debt levels in many regions and expected monetary tightening by central banks in the US, the UK, Japan and the euro area require close monitoring.

World Oil Demand

World oil demand growth in 2021 is revised slightly down by 0.04 mb/d, reflecting actual data across the regions, standing now at 5.7 mb/d. The downward revision is necessitated by an upward revision to the 2020 baseline. Oil demand in the OECD increased by 2.6 mb/d in 2021, while the non-OECD showed growth of 3.1 mb/d. For 2022, world oil demand growth is revised down by 0.5 mb/d to stand at 3.7 mb/d, mostly reflecting the downward revision in world economic growth. Oil demand growth is forecast at 1.9 mb/d in the OECD and 1.8 mb/d in the non-OECD.

World Oil Supply

Non-OPEC liquids supply growth in 2021 is broadly unchanged at around 0.6 mb/d y-o-y. Total US liquids production in 2021 increased by 0.1 mb/d, y-o-y. The largest growth increases were seen in Canada, Russia and China. Meanwhile, production is estimated to have declined in the UK, Brazil, Colombia and Indonesia. Non-OPEC supply in 2022 is revised down by 0.3 mb/d to 2.7 mb/d, mainly on the back of a downward revision for Russia. On the other hand, the US liquids supply growth forecast for 2022 is revised up by 0.3 mb/d to 1.3 mb/d. The main contributors to liquids supply growth in 2022 are expected to be the US, Russia, Brazil, Canada, Kazakhstan, Guyana and Norway. OPEC NGLs are forecast to grow by around 0.1 mb/d both in 2021 and 2022, averaging 5.1 mb/d and 5.3 mb/d, respectively. In March, OPEC-13 crude oil production increased by 57 tb/d, m-o-m, to average 28.56 mb/d, according to available secondary sources.

Product Markets and Refining Operations

Refinery margins jumped in all main trading hubs in March, as product prices soared in response to a growing product supply-demand imbalance. A decline in total product output levels, amid the onset of a heavy turnaround season, resulted in a notable and disproportional rise in product netbacks relative to crude prices. Moreover, in contrast to other regions, US refinery runs trended higher over the month, with gasoline availability showing signs of recovery. However, middle distillate availability continued to contract beyond the already low levels. This resulted in massive upward pressure on product prices and the robust performance of middle distillate markets, particularly in Europe.

Tanker Market

Tanker markets are being broadly impacted by uncertainties related to the conflict in Eastern Europe, which is expected to affect trade patterns. Aframax and Suezmax freight rates, the main vessels used to transport Black Sea flows, have particularly been effected. Aframax spot freight rates around the Mediterranean are up more than 70% in March from January levels, while spot Suezmax rates in the Atlantic basin are some 50% higher over the same period. Clean rates have also seen strong support on all monitored routes, particularly on the Mideast-to-East route.

Crude and Refined Products Trade

Preliminary data shows US crude imports increased 3%, m-o-m, in March to average 6.4 mb/d, while crude exports gained 8%, m-o-m, from the low levels witnessed in the previous month to average 3.1 mb/d. US product exports surged 22%, m-o-m, up from a weak performance the month before. In China, the latest data shows crude imports averaged 9.5 mb/d in February, down from the strong performance seen the month before as the Lunar New Year Holidays and Winter Olympics reduced refinery runs. India's crude imports recovered some of the January losses, averaging 4.6 mb/d in February, as domestic demand continued to accelerate following the tapering off of the third wave of COVID-19 infections. Japan's crude imports averaged 2.8 mb/d in February, amid higher product exports.

Commercial Stock Movements

Preliminary data sees total OECD commercial oil stocks down 22.8 mb, m-o-m, in February. At 2,599 mb, they were 372 mb less than the same time one year ago, 334 mb lower than the latest five-year average, and 321 mb below the 2015–2019 average. Within the components, crude stocks rose by 0.7 mb, m-o-m, while products stocks fell by 23.5 mb, m-o-m. At 1,254 mb, OECD crude stocks were 185 mb less than the latest five-year average and 194 mb below the 2015–2019 average. OECD product stocks stood at 1,345 mb, representing a deficit of 148 mb compared with the latest five-year average, and 128 mb below the 2015–2019 average. In terms of days of forward cover, OECD commercial stocks fell by 0.6 days, m-o-m, in February to stand at 57.3 days. This is 11.0 days below February 2021 levels, 8.6 days less than the latest five-year average, and 5.2 days lower than the 2015–2019 average.

Balance of Supply and Demand

Demand for OPEC crude in 2021 is revised up by 0.1 mb/d from the previous month's assessment to stand at 28.1 mb/d, which is around 5.0 mb/d higher than in 2020. In contrast, demand for OPEC crude in 2022 is revised down by 0.1 mb/d from the previous month's assessment, to stand at 29.0 mb/d, which is around 0.8 mb/d higher than in 2021.

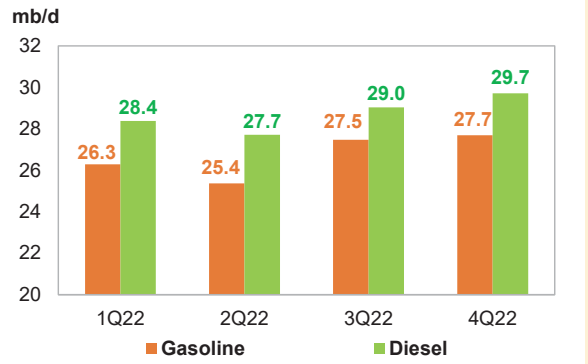
Feature Article

Summer oil market outlook

At a global level, as most countries relaxed lockdown measures imposed during the COVD-19 pandemic, oil demand in 1Q22 witnessed strong growth of almost 5 mb/d y-o-y. However, due to recent geopolitical developments in Eastern Europe, 2Q22 and 3Q22 are both forecast at growth of 3.5 mb/d y-o-y.

Nevertheless, demand in the summer months is anticipated to be driven by increasing mobility, leading to a further pickup in gasoline demand, while diesel requirements are projected to continue on a healthy upward trend. The US is expected to see the bulk of this product demand growth, increasing by around 0.9 mb/d in 2Q22 and 3Q22, y-o-y. Although OECD Europe is strongly impacted by the current geopolitical developments, the region is expected to see demand growth of around 0.5 mb/d y-o-y on average in 2Q22 and 3Q22, with the impact of COVID-19 expected to fade in the summer season.

Graph 1: Global oil demand for gasoline and diesel



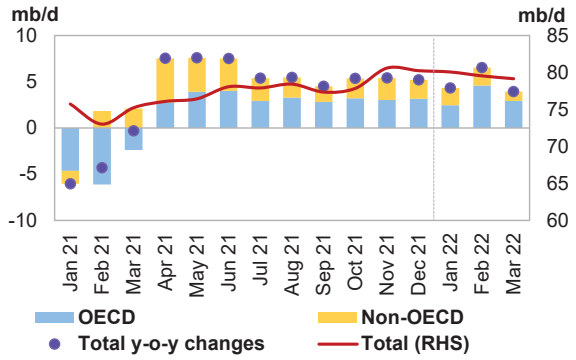
Source: OPEC.

In the non-OECD countries, India's oil demand picked up strongly from the contraction seen in 4Q21 to average growth of 0.3 mb/d y-o-y in 1Q22. Gasoline and diesel demand have already surpassed 2021 levels as lockdown measures were mostly removed and as the recovery gained traction. However, China is confronted with a resurgence of COVID-19, causing oil demand growth in 1Q22 to drop to 0.4 mb/d, y-o-y, from 0.8 mb/d growth seen in 4Q21.

For 2Q22 and 3Q22, global oil demand is expected to grow by 3.5 mb/d, y-o-y, on average. The 2Q22 gasoline and diesel demand is expected at 25.4 mb/d and 27.7 mb/d, respectively. Moreover, 3Q22 is projected to recover and surpass pre-pandemic levels, with global gasoline demand forecast at 27.5 mb/d and diesel at 29.0 mb/d (***Graph 1***).

On the refining side, the heavy refinery turnaround season is expected to drive global offline capacity to a peak in April 2022, before declining again thereafter. This should lead to a return of nearly 5.0 mb/d of capacity for operations by July 2022, supporting refinery intakes (***Graph 2***). At the same time, the increasingly tight global product balance will drive refinery intakes.

Graph 2: Global refinery crude intake by region, y-o-y changes



Sources: Argus and OPEC.

Total OECD commercial product inventories in February were around 150 mb below the latest five-year average, with gasoline and distillate inventories standing at 27 mb and 84 mb below the latest five-year average. The combination of restricted fuel supplies and low product inventory levels, amid projections of rising product consumption during the summer season, could lead to a tighter product supply-demand balance, with a significant shortage in gasoline and distillates.

The geopolitical tensions in Eastern Europe are expected to dislocate product supply to other regions, lending support to refinery intakes in those regions. Indeed, the US has increased diesel exports to Europe and Latin America, with waterborne diesel exports out of the US Gulf Coast having climbed notably in late March, nearly reaching the highest level seen in over two years. Refinery intakes are also expected to pick-up in Asia and the Middle East in the coming months, in an attempt to make up for any shortfall in product supply.

Given the current uncertainty surrounding the recent developments, the geopolitical turmoil and the outlook for the summer months, the countries participating in the 'Declaration of Cooperation' continue to reaffirm their unwavering commitment to supporting oil market stability by ensuring adequate crude oil supply to the global market.

World Oil Demand

Based on the latest historical data, world oil demand growth in 2021 was revised slightly to the downside by 0.04 mb/d as compared to the previous month to now stand at 5.7mb/d. The downward revision is due to an upward revision to the 2020 baseline. During 2021, OECD oil demand increased by 2.6 mb/d, while non-OECD oil demand showed growth of 3.1 mb/d y-o-y.

In 2022, oil demand growth was revised to the downside by 0.5 mb/d to average 3.7 mb/d y-o-y, accounting for declines in global GDP on account of the geopolitical developments and the resurgence of the Omicron variant on global oil demand in China. World oil demand is projected to average 100.5 mb/d, which is 0.4 mb/d lower than the previous month's estimates and approximately 0.3 mb/d higher than 2019.

In 1Q22, world oil demand recorded robust growth, mainly due to a strong economic rebound, supported by stimulus programmes and further easing of COVID-19 containment measures. OECD oil demand grew by 2.8 mb/d y-o-y while non-OECD requirements gained 2.2 mb/d as compared to the same quarters in 2021. Downward revisions in 2Q22, 3Q22 and 4Q22 oil demand growth took into account mainly current economic forecasts and other factors that could potentially reduce world oil requirements.

Diesel and gasoline are anticipated to record the highest gains among petroleum products y-o-y on the back of increasing mobility and healthy industrial activities globally. Improvements in supply chain bottlenecks in major consuming countries will support oil demand, with light distillates largely supported by strong petrochemical demand, notably in China, the US and India. Finally, the recovery in global air travel amid declining COVID-19 is expected to further support jet kerosene demand.

Table 4 - 1: World oil demand in 2021*, mb/d

							Change 2021/20	
World oil demand	2020	1Q21	2Q21	3Q21	4Q21	2021	Growth	%
Americas	22.56	22.82	24.38	24.83	25.01	24.27	1.71	7.58
of which US	*18.35*	*18.60*	*20.17*	*20.35*	*20.56*	*19.93*	*1.58*	*8.60*
Europe	12.43	11.91	12.64	13.85	13.88	13.08	0.64	5.18
Asia Pacific	7.14	7.67	7.04	7.11	7.82	7.41	0.27	3.77
Total OECD	**42.13**	**42.40**	**44.05**	**45.79**	**46.70**	**44.75**	**2.62**	**6.23**
China	13.56	13.85	14.61	14.57	15.21	14.56	1.00	7.39
India	4.51	4.94	4.50	4.59	5.02	4.76	0.25	5.61
Other Asia	8.13	8.56	8.98	8.34	8.62	8.63	0.50	6.09
Latin America	6.01	6.25	6.16	6.46	6.34	6.30	0.29	4.84
Middle East	7.55	7.95	7.77	8.24	7.97	7.98	0.44	5.80
Africa	4.08	4.37	4.08	4.15	4.43	4.26	0.17	4.27
Russia	3.39	3.65	3.42	3.63	3.76	3.61	0.23	6.69
Other Eurasia	1.07	1.23	1.24	1.09	1.28	1.21	0.14	12.69
Other Europe	0.70	0.78	0.72	0.73	0.79	0.75	0.06	8.27
Total Non-OECD	**49.00**	**51.58**	**51.48**	**51.80**	**53.42**	**52.07**	**3.07**	**6.28**
Total World	**91.13**	**93.98**	**95.53**	**97.59**	**100.12**	**96.82**	**5.70**	**6.25**
Previous Estimate	91.02	93.84	95.46	97.49	100.10	96.75	5.73	6.30
Revision	0.11	0.14	0.08	0.09	0.02	0.07	-0.04	-0.05

*Note: * 2021 = Estimation. Totals may not add up due to independent rounding. Source: OPEC.*

Table 4 - 2: World oil demand in 2022*, mb/d

World oil demand	2021	1Q22	2Q22	3Q22	4Q22	2022	Change 2022/21 Growth	Change 2022/21 %
Americas	24.27	24.38	25.43	25.82	25.78	25.36	1.09	4.50
of which US	*19.93*	*19.70*	*21.01*	*21.30*	*21.26*	*20.82*	*0.89*	*4.49*
Europe	13.08	12.83	13.17	14.40	14.24	13.66	0.59	4.49
Asia Pacific	7.41	7.96	7.22	7.25	7.93	7.59	0.18	2.42
Total OECD	**44.75**	**45.16**	**45.82**	**47.47**	**47.95**	**46.61**	**1.86**	**4.16**
China	14.56	14.34	15.10	15.06	15.65	15.04	0.48	3.27
India	4.76	5.28	4.82	4.97	5.35	5.10	0.34	7.16
Other Asia	8.63	9.20	9.59	8.93	8.95	9.16	0.54	6.24
Latin America	6.30	6.43	6.33	6.61	6.50	6.47	0.16	2.62
Middle East	7.98	8.28	8.01	8.49	8.20	8.25	0.26	3.28
Africa	4.26	4.52	4.21	4.27	4.56	4.39	0.13	3.11
Russia	3.61	3.70	3.33	3.50	3.59	3.53	-0.08	-2.29
Other Eurasia	1.21	1.24	1.19	1.04	1.28	1.19	-0.02	-2.06
Other Europe	0.75	0.80	0.71	0.73	0.80	0.76	0.01	0.69
Total Non-OECD	**52.07**	**53.79**	**53.29**	**53.60**	**54.86**	**53.89**	**1.81**	**3.48**
Total World	**96.82**	**98.95**	**99.12**	**101.06**	**102.81**	**100.50**	**3.67**	**3.79**
Previous Estimate	96.75	99.14	99.78	101.36	103.24	100.91	4.15	4.29
Revision	0.07	-0.19	-0.66	-0.30	-0.44	-0.41	-0.48	-0.50

*Note: * 2021 = Estimation and 2022 = Forecast. Totals may not add up due to independent rounding. Source: OPEC.*

OECD

OECD Americas

Update on the latest developments

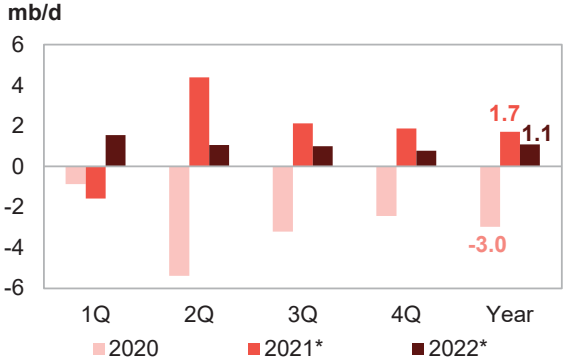
According to the latest available monthly data for January 2022, **US oil demand** grew strongly by 1.1 mb/d y-o-y, up by 6.0%. **January 2022** oil demand witnessed growth for the majority of petroleum products, with naphtha being the only exception.

Gasoline demand grew by 0.3 mb/d y-o-y in line with Apple mobility trend reports of a 34% increase in the driving mobility index in the US.

Furthermore, the index of industrial output in the US rose by 2% y-o-y in January, and diesel witnessed growth of 0.2 mb/d y-o-y.

LPG demand exceeded pre-pandemic levels as propane and butane demand edged up in US NGL feedstock requirements for the industrial and petrochemical sectors.

Graph 4 - 1: OECD Americas oil demand, y-o-y change



*Note: * 2021 = Estimation and 2022 = Forecast.*
Source: OPEC.

However, according to IATA monthly statistics on the US domestic markets, the revenue-passenger-kilometers (RPK) growth rate slowed in January as the US market was substantially affected by flight cancellations and staff shortages related to COVID-19 containment measures. Consequently, jet kerosene demand recorded a month-on-month decline, but at the same time growth of 0.3 mb/d y-o-y and on top of a low baseline in the same month in 2021.

According to preliminary weekly data, February 2022 and March 2022 averages imply a continuation of the growing oil demand trajectory.

Oil demand grew firmly also in Canada and Mexico during the first two months of 2022 y-o-y, supported by rising oil requirements in the transportation and industrial sectors.

Table 4 - 3: US oil demand, mb/d

By product	Jan 21	Jan 22	Change Jan 22/Jan 21 Growth	%
LPG	3.64	3.83	0.19	5.1
Naphtha	0.18	0.17	-0.01	-7.8
Gasoline	7.67	7.98	0.32	4.1
Jet/kerosene	1.14	1.44	0.30	26.2
Diesel	3.93	4.08	0.15	3.7
Fuel oil	0.24	0.33	0.09	38.0
Other products	2.08	2.19	0.11	5.3
Total	**18.89**	**20.02**	**1.14**	**6.0**

Note: Totals may not add up due to independent rounding. Sources: EIA and OPEC.

Near-term expectations

In 2022, US GDP growth is forecast to grow by 3.8% y-o-y, following robust growth of 5.7% in 2021. Early indications have shown a slowing in economic activities; the pace of new orders for manufactured goods in the near term seems to be slowing substantially in the US, which may affect service spending with undesirable effects, potentially leading to supply chain disruptions.

Despite some challenges, US oil demand is expected to record solid growth of 1.1 mb/d in 2022 y-o-y. A comprehensive stimulus package in the US is anticipated to provide strong support for oil demand, and accordingly, US oil demand is estimated to record strong growth of 1.6 mb/d in 1Q22, backed by rising mobility and social activities. This trend will continue into 2Q22 as higher vehicle miles travelled, in combination with improving unemployment figures and healthy petrochemical industry requirements will support oil demand growth of 1.1 mb/d. Furthermore, as the recovery in international air traffic continues, jet kerosene demand will continue to recover and grow. In 3Q22 and 4Q22, US oil demand growth is projected to slow to 1.0 mb/d and 0.8 mb/d, respectively. Overall, 2022 US oil demand is expected to exceed pre-COVID-19 levels.

Oil demand in other countries of the region during 2022 is projected to be driven by transportation and industrial sector requirements.

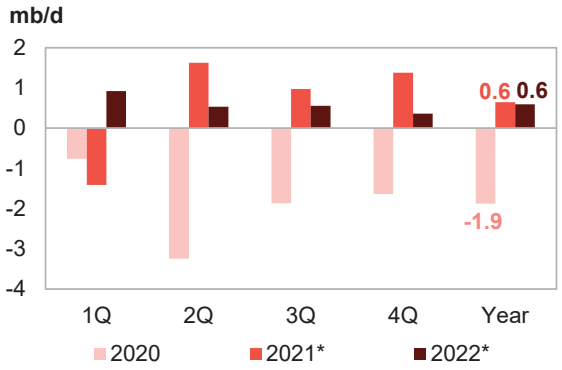
OECD Europe

Update on the latest developments

Transportation fuel demand in **OECD Europe** continued its recovery trajectory as COVID-19 pandemic restrictions eased and economic activities recovered in most EU countries, with demand reaching slightly below pre-pandemic levels. In **January 2022,** oil demand in the region grew strongly by 1.3 mb/d y-o-y, supported by the usual seasonal boost in mobility as people travelled for leisure and business-related activities.

The Apple mobility trends indicate strong mobility in all of the Big Four European economies. In Spain, driving mobility grew by 54% in January 2022 as compared with same period in 2021, in the UK 49%, while in Germany 33% and France 24%, respectively.

Graph 4 - 2: OECD Europe's oil demand, y-o-y change



*Note: * 2021 = Estimation and 2022 = Forecast.*
Source: OPEC.

In addition, industrial output also increased appreciably, leading to increased diesel demand to close to pre-pandemic levels in January. While diesel witnessed strong growth of 0.7 mb/d y-o-y, gasoline grew by 0.3 mb/d y-o-y. A recovery in air travel on both domestic and international routes resulted in demand for jet kerosene rising by 0.3 mb/d, or 53%, y-o-y. This is consistent with a report from IATA in January 2022, which indicated that January air travel in the Euro-zone, both domestic and international, was significantly better than at the beginning of 2021, despite the resurgence of the Omicron variant. However, naphtha and LPG demand recorded declines y-o-y, which were partly offset by overall gains.

Table 4 - 4: Europe's Big 4* oil demand, mb/d

By product	Jan 21	Jan 22	Change Jan 22/Jan 21 Growth	%
LPG	0.42	0.41	-0.01	-2.6
Naphtha	0.66	0.57	-0.08	-12.8
Gasoline	0.86	1.05	0.19	21.8
Jet/kerosene	0.38	0.56	0.18	48.2
Diesel	2.51	2.79	0.27	10.8
Fuel oil	0.14	0.17	0.03	20.1
Other products	0.38	0.41	0.03	7.1
Total	**5.35**	**5.95**	**0.60**	**11.2**

*Note: * Germany, France, Italy and the UK. Totals may not add up due to independent rounding.*

Sources: JODI, UK Department for Business, Energy & Industrial Strategy, Unione Petrolifera and OPEC.

Near-term expectations

Current geopolitical developments will impact economic and oil demand growth in the region. Nevertheless, based on the low historical baseline during 2021, there is cautious optimism for growth in 2022 oil demand. Improving pandemic developments will also support European in 2022.

In 1Q22, oil demand was estimated to have grown by 0.9 mb/d y-o-y, however momentum is projected to slow down to 0.5 mb/d y-o-y in 2Q22 and 3Q22, and to drop further to 0.4 mb/d in 4Q22. Overall, oil demand is expected to grow by 0.6 mb/d y-o-y in 2022.

In terms of products, very high natural gas prices in the EU are expected to incentivize fuel switching between natural gas and diesel, mainly in the industrial sectors. International and domestic passenger air traffic are furthermore projected to support jet kerosene demand to grow during 2022 y-o-y. Strong mobility during 1Q22 and 2Q22 will provide solid support to gasoline demand. Finally, petrochemical industry demand for feedstock is projected to support rising demand for naphtha and LPG during 2022.

OECD Asia Pacific

Update on the latest developments

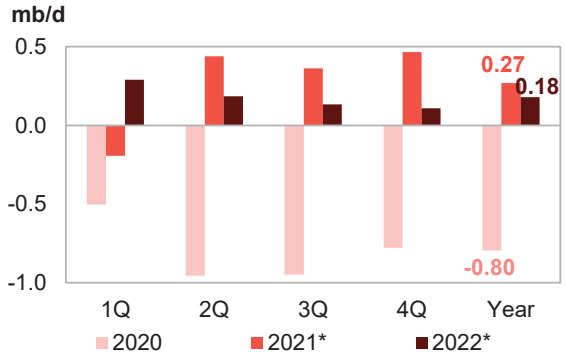
OECD Asia Pacific oil demand showed an improvement of 0.53 mb/d y-o-y growth in **January**. Requirements for petrochemical industry feedstock in Japan and South Korea strengthened demand for naphtha to grow by 0.18 mb/d y-o-y.

Similarly, additional industrial and residential requirements sparked a rise in LPG demand by 0.06 mb/d.

Mobility lent support to transportation fuels in OECD Asia Pacific with gasoline growing by 0.07 mb/d y-o-y.

Diesel demand increased by 0.11 mb/d y-o-y, supported by coal-to-gas switching as residential heating demand returned to normal after an exceptionally mild winter.

Graph 4 - 3: OECD Asia Pacific oil demand, y-o-y change



*Note: * 2021 = Estimation and 2022 = Forecast.*
Source: OPEC.

Jet fuel demand was unchanged y-o-y as the Asia Pacific airline sector remained under pressure with passenger traffic trending at weak levels following a surge in COVID-19 cases.

Table 4 - 5: Japan's oil demand, mb/d

By product	Feb 21	Feb 22	Change Feb 22/Feb 21 Growth	%
LPG	0.51	0.54	0.03	6.7
Naphtha	0.74	0.67	-0.07	-10.0
Gasoline	0.74	0.69	-0.05	-6.4
Jet/kerosene	0.59	0.65	0.06	9.7
Diesel	0.81	0.78	-0.03	-3.1
Fuel oil	0.26	0.29	0.03	12.4
Other products	0.19	0.12	-0.07	-35.0
Total	**3.83**	**3.75**	**-0.09**	**-2.3**

Note: Totals may not add up due to independent rounding. Sources: JODI, METI and OPEC.

Near-term expectations

In 2022, the expected massive vaccination campaigns and other containment measures are forecast to support the containment of COVID-19 in the Asia Pacific region. This, coupled with additional government stimulus packages will back demand for oil in the region. In 2022, oil demand in the region is expected to grow by 0.18 mb/d y-o-y. The strongest growth is expected to be recorded in 1Q22 and to be driven by strong petrochemical and industrial feedstock requirements for naphtha and diesel. In addition, residential heating requirements will back LPG demand. In 2Q22 and 3Q22, transportation fuel requirements are forecast to increase, due to the expected mobility recovery in the region. Accordingly, gasoline and diesel will gain additional support in both 2Q22 and 3Q22, with oil demand expected to rise by 0.19 mb/d and 0.13 mb/d, respectively. However, in 4Q22, oil demand growth is expected to decrease slightly to 0.11 mb/d y-o-y. Although jet fuel recorded dismal growth during January, the fuel is likely to recover later in the year. Australia has already opened up its borders to tourists and international travellers after a nearly two-year-long hiatus. This will lend support to a jet-kerosene demand recovery in the region.

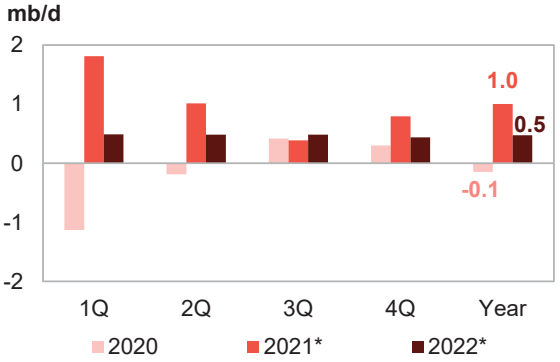
Non-OECD

China

Update on the latest developments

Oil demand in China remained resilient in **February** despite the resurgence of COVID-19 in some cities of China. February monthly data indicates oil demand growth of 0.4 mb/d y-o-y. Oil demand growth was driven by light distillate requirements on the back of China's propane dehydrogenation plants ramping up after returning from maintenance and households boosting heating requirements during a cold winter. LPG demand recorded annual growth of 0.2 mb/d y-o-y. Furthermore, strong demand from domestic refineries lent strong support to residual fuel, which grew by 0.1 mb/d y-o-y. Backed by healthy petrochemical industry requirements in 1Q22, demand for naphtha grew by 0.1 mb/d y-o-y.

Graph 4 - 4: China's oil demand, y-o-y change



*Note: * 2021 = Estimation and 2022 = Forecast.*
Source: OPEC.

However, the major transportation fuels were negatively impacted by stringent COVID-19 containment measures. Gasoline demand recorded moderate growth of 0.1 mb/d y-o-y, while demand for diesel declined slightly y-o-y. However, jet-kerosene slowed down, declining by 0.23 mb/d y-o-y in February, due to the deceleration of domestic and international RPKs.

Table 4 - 6: China's oil demand*, mb/d

By product	Feb 21	Feb 22	Change Feb 22/Feb 21 Growth	%
LPG	1.89	2.13	0.24	12.7
Naphtha	1.25	1.39	0.14	11.2
Gasoline	3.03	3.12	0.09	2.9
Jet/kerosene	0.72	0.49	-0.23	-31.8
Diesel	3.52	3.51	-0.01	-0.2
Fuel oil	0.62	0.77	0.15	24.1
Other products	1.10	1.16	0.06	5.5
Total	**12.13**	**12.57**	**0.44**	**3.6**

*Note: * Apparent oil demand. Totals may not add up due to independent rounding.*

Sources: Argus Global Markets, China OGP (Xnhua News Agency), Facts Global Energy, JODI, National Bureau of Statistics China and OPEC.

Near-term expectations

Despite the resurgence of COVID-19, there are expectations for positive oil demand growth in 2022. The Chinese economy is projected to grow solidly in 2022. In response, oil demand is forecast to grow by 0.5 mb/d in 2022. 1Q22, 2Q22 and 3Q22 are projected to each grow by 0.5 mb/d. In 4Q22, oil demand growth momentum is projected to slightly slow down to 0.4 mb/d.

In the first three quarters of the year, oil demand is expected to be supported by strong petrochemical and industrial demand for feedstock and NGLs, including LPG and naphtha. Furthermore, higher infrastructural spending will boost demand for diesel for haulage and naphtha for plastics. Furthermore, strong seasonal demand for agriculture will add additional support for diesel demand. LPG will gain additional support from household demand. Similarly, refineries' demand for feedstock will further boost fuel oil demand. As the country continues to accelerate COVID-19 vaccinations and other containment measures, supply chain disruptions are also expected to further ease. Accordingly, mobility-related activities are expected to recover in 3Q22 and 4Q22. Additionally, as reports from the official airline guide (OAG) indicated, global weekly airline seat capacity is expected to bounce back in China, helping the Chinese aviation industry to recover and positively impact jet kerosene demand.

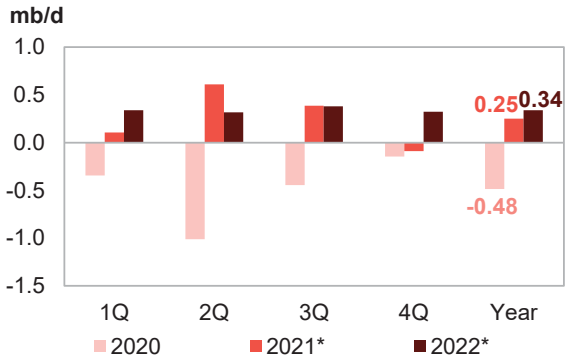
India

Update on the latest developments

The latest available **February 2022** data shows oil demand growing by more than 0.2 mb/d y-o-y, marking the highest monthly growth since September 2021 and averaging roughly at pre-COVID levels.

India's oil demand is expected to continue growing to new highs in 2022. Most of the trade-related supply chain bottlenecks have been eased by February. Oil demand developments are also in line with the lifting of restrictions on mobility and travel, and subsequent intensified vehicle use and full resumption of business and social activities. Accordingly, India's diesel consumption recovered from a four-month low, growing by 0.1 mb/d m-o-m, however down slightly y-o-y, supported by construction, agriculture and industrial activities. Gasoline demand grew during the same month by 24 tb/d y-o-y in line with the Apple mobility index indicating increasing trends in February. The main beneficiary of the Indian oil demand recovery in February is LPG, mostly used by households and small-scale industries.

Graph 4 - 5: India's oil demand, y-o-y change



*Note: * 2021 = Estimation and 2022 = Forecast.*
Source: OPEC.

Data from the Petroleum Planning and Analysis Cell (PPAC) of the Indian Oil Ministry implies that LPG sales in India increased by almost 7% in February y-o-y. Gains in February 2022 oil demand have also been registered for residual fuel oil, as well as petroleum coke and bitumen, in support of manufacturing and industrial activities. It is also worth noting that despite the strong growth of India's oil requirements, demand for diesel and jet kerosene remains below pre-pandemic levels.

Table 4 - 7: India's oil demand, mb/d

By product	Feb 21	Feb 22	Change Feb 22/Feb 21 Growth	%
LPG	0.87	0.92	0.06	6.6
Naphtha	0.39	0.38	-0.01	-2.2
Gasoline	0.75	0.77	0.02	3.1
Jet/kerosene	0.20	0.19	0.00	-2.4
Diesel	1.88	1.87	-0.01	-0.7
Fuel oil	0.29	0.30	0.01	4.0
Other products	0.45	0.63	0.17	38.2
Total	**4.82**	**5.06**	**0.24**	**5.0**

Note: Totals may not add up due to independent rounding.

Sources: JODI, Petroleum Planning and Analysis Cell of India and OPEC.

Near-term expectations

With expected strong economic growth, effective COVID-19 management, and the dismantling of trade-related supply chain bottlenecks, India is expected to continue with its oil demand growth trajectory in 2022. Transportation fuels – gasoline and diesel – are projected to be the main drivers of oil demand growth, supported by mobility and the acceleration of industrial activities. Gasoline is forecast to grow by 0.15 mb/d annually, and diesel is expected to increase by 0.11 mb/d y-o-y. Furthermore, jet-kerosene and LPG are expected to contribute to overall oil demand growth, however with lower volumes of 0.06 mb/d and 0.03 mb/d annually. Oil demand is projected to increase by 0.3 mb/d in 1Q22, 2Q22 and 4Q22 each, with seasonally slightly higher growth of 0.4 in 3Q22 mb/d.

Latin America

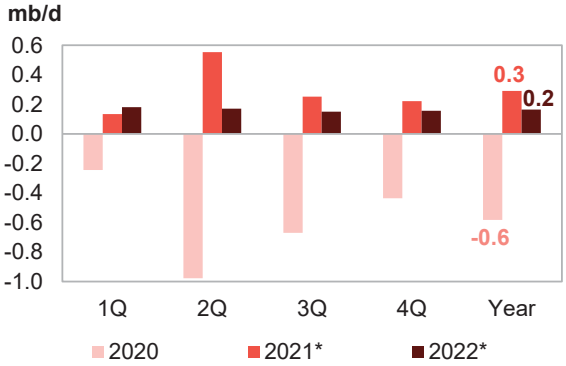
Update on the latest developments

The latest available oil demand data in Latin America for **January 2022** implies a decline of about 52 tb/d y-o-y. The bulk of the decline was related to Brazil and was partially offset by gains in other countries in the region, notably Argentina.

In Brazil, minor gains in the requirements of gasoline, jet/kerosene and diesel in January were more than offset by declines in ethanol demand. Brazilian oil demand grew in February 2022 y-o-y, supported by solid requirements in transportation fuels.

In January 2022, Argentina's oil demand increased by around 35 tb/d y-o-y, on the back of increases in diesel and gasoline.

Graph 4 - 6: Latin America's oil demand, y-o-y change



*Note: * 2021 = Estimation and 2022 = Forecast.*
Source: OPEC.

Transportation fuel demand, notably gasoline and diesel, remained healthy in the region, in line with mobility trends in Argentina and Brazil, which improved by 33% and 36% in January, respectively, slightly better than in the previous month. However, jet/kerosene demand grew marginally by 20 tb/d as the aviation sector in Latin America was still affected by the resurgence of the Omicron variant, and the sector remained nearly 50% below pre-COVID-19 levels.

Near-term expectations

Looking ahead, the 2022 oil demand forecast for the region remains dependent on a number of factors, including the current wave of COVID-19 infections and its impacts on mobility and overall economic performance, in addition to economic development in the region. The current forecast foresees Latin American's 2022 oil demand growing by 0.16 mb/d y-o-y. Transportation fuels are expected to be the main drivers for 2022 oil demand growth in the region. Diesel, gasoline and jet/kerosene requirements are expected to grow by 53 tb/d, 39 tb/d and 28 tb/d y-o-y, respectively. The overall 2022 oil demand forecast risks appear to be slightly tilted to the downside in light of developments on the COVID-19 front and vaccination rollouts. Nevertheless, positive economic developments supported by fiscal stimulus programmes are anticipated to

offset most of the negative risks. Brazil is projected to lead oil demand growth in the region during 2022, supported by fiscal stimulus programmes.

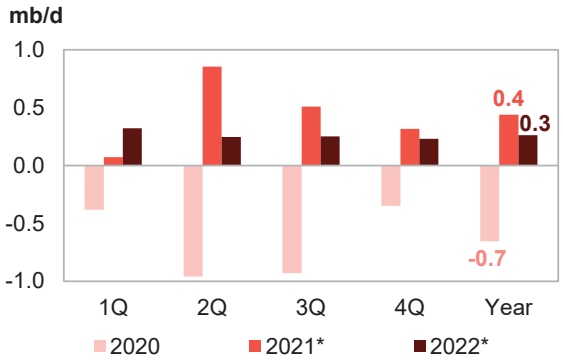
Middle East

Update on the latest developments

Oil demand in the Middle East grew during **January** as oil requirements increased by around 0.3 mb/d, or 6%, y-o-y. Fuel oil demand growth was the main driver of oil demand in January, rising by 0.08 mb/d, or 10%, y-o-y, backed by rising demand for power generation. Demand for industrial fuels was also boosted by an increase in capacity for oil-fired power generation plants in Saudi Arabia.

Mobility rates continued to recover as Omicron subsided in Saudi Arabia and the UAE. According to Apple Mobility Trends Reports, the driving mobility index in the UAE rose by 40% y-o-y in January 2022 (however it declined by 7% m-o-m). In Saudi Arabia, the mobility index grew by 12% y-o-y in January 2022 and on a monthly basis, mobility increased by 9%.

Graph 4 - 7: Middle East's oil demand, y-o-y change



*Note: * 2021 = Estimation and 2022 = Forecast.*
Source: OPEC.

Accordingly, gasoline demand grew by 0.06 mb/d y-o-y. However, diesel grew marginally by 0.02 mb/d as jet fuel recorded a decline -0.02 mb/d due to slowdown of international air traffic due to the Omicron variant.

Table 4 - 8: Saudi Arabia's oil demand, mb/d

			Change	Feb 22/Feb 21
By product	Feb 21	Feb 22	Growth	%
LPG	0.05	0.05	0.00	-0.4
Gasoline	0.47	0.48	0.01	2.1
Jet/kerosene	0.05	0.05	0.00	5.0
Diesel	0.49	0.50	0.01	2.8
Fuel oil	0.40	0.47	0.07	17.4
Other products	0.43	0.36	-0.07	-15.7
Total	**1.89**	**1.91**	**0.03**	**1.5**

Note: Totals may not add up due to independent rounding.

Sources: JODI and OPEC.

Near-term expectations

In 2022, oil demand in the Middle East is forecast to grow by 0.3 mb/d y-o-y, with strong diesel and jet fuel demand projected to be the main drivers for oil demand growth. In 1Q22, oil demand is estimated to grow by 0.32 mb/d on the back of rising industrial and transportation requirements for fuel oil and diesel. Annually, diesel is forecast to grow by 85 tb/d y-o-y. In 2Q22 through 4Q22, as countries continue with massive vaccination campaigns and other COVID-19 containment measures, the pandemic's impacts are expected to start subsiding. The decline in COVID-19 coupled with a rise in GDP are expected to boost mobility rates further, and accordingly, demand for gasoline is expected to grow by 57 tb/d y-o-y. Although, based on the current report, jet fuel recorded a decline, however, demand for jet fuel in the Middle East is expected to rise with the lifting of travel bans. Jet kerosene is thus forecast to grow by 75 tb/d. Dubai jet fuel demand is expected to boom in 2022 as its international airport's passenger numbers are forecast to rise by 90% in 2022.

World Oil Supply

Non-OPEC liquids supply growth y-o-y in 2021 (including processing gains of 0.1 mb/d) has been revised down slightly by 0.01 mb/d to estimated growth of around 0.6 mb/d, for an average of 63.6 mb/d. Total US liquids production is estimated to have increased y-o-y by 0.15 mb/d to average 17.75 mb/d in 2021. The largest increases were seen in Canada, which rose by 0.3 mb/d, followed by Russia and China, which are estimated to each have grown by 0.2 mb/d. At the same time, production is estimated to have declined in the UK, Brazil, Colombia and Indonesia.

Non-OPEC supply growth for 2022 is revised down by 0.3 mb/d y-o-y to 2.7 mb/d, for a yearly average level of 66.26 mb/d. Russia's liquids production for 2022 is revised down by 0.53 mb/d. While most US oil companies continue to focus on paying off debts and returning capital to shareholders, increasing drilling and completion trends could translate into higher production levels in the coming months. Active drilling rigs in the US climbed by 243 rigs y-o-y, reaching 673 rigs, of which more than 90% are for horizontal wells. Therefore, the US liquids supply growth forecast for 2022 is revised up by 0.26 mb/d to 1.29 mb/d. The main drivers of liquids supply growth for the year are expected to be the US, Russia, Brazil, Canada, Kazakhstan, Guyana and Norway.

OPEC NGLs and non-conventional liquids production in 2021 is unchanged from the previous assessment and is estimated to have grown by 0.1 mb/d y-o-y for an average of 5.1 mb/d. Growth of 0.1 mb/d y-o-y is forecast for 2022 for an average of 5.3 mb/d. OPEC-13 crude oil production in March increased by 57 tb/d m-o-m to average 28.56 mb/d, according to available secondary sources.

Preliminary non-OPEC liquids production in March, including OPEC NGLs, is estimated to have grown m-o-m by 0.32 mb/d to average 71.10 mb/d, up by 2.54 mb/d y-o-y. As a result, preliminary data indicates that global oil supply in March increased by 0.37 mb/d m-o-m to average 99.66 mb/d, up by 6.03 mb/d y-o-y.

Non-OPEC liquids production growth in 2021 was revised down marginally by 6 tb/d from the previous month's assessment to average 0.6 mb/d.

In the OECD, a downward revision of 55 tb/d in 4Q21 led to a minor downward revision of 12 tb/d for the year. The main downward adjustment was in OECD Europe, due to a revision for biofuels for the whole year. In addition, production in the US and Canada was also slightly lower than expected.

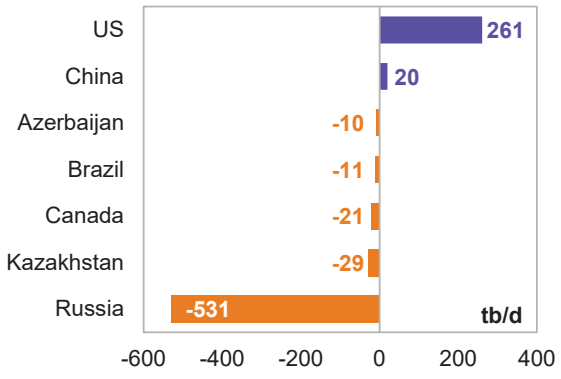
The non-OECD supply forecast for 2021 was revised up by a marginal 6 tb/d, mainly due to minor upward revisions in China and India's biofuel production.

The **non-OPEC supply growth forecast for 2022** was revised down by 0.32 mb/d from the previous month's assessment to 2.7 mb/d. This month's upward revisions were more than offset by downward adjustments in Eurasian countries.

The main upward revision was in US tight liquid production, while the main downward revision has been observed in Russia.

With this, the non-OPEC liquids supply forecast for 2022 was revised down by 322 tb/d to average 66.26 mb/d, with y-o-y growth revised down to 2.7 mb/d.

Graph 5 - 1: Major revisions to annual supply change forecast in 2022*, MOMR Apr 22/Mar 22

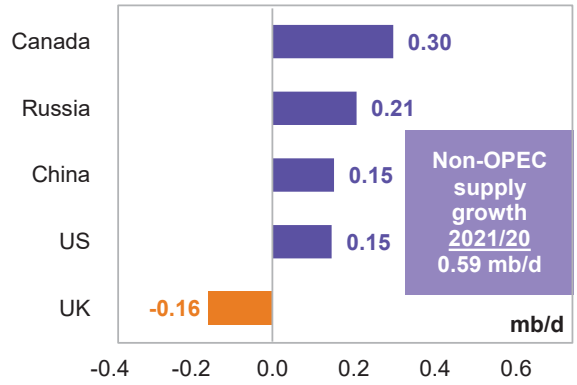


*Note: * 2022 = Forecast. Source: OPEC.*

Key drivers of growth and decline

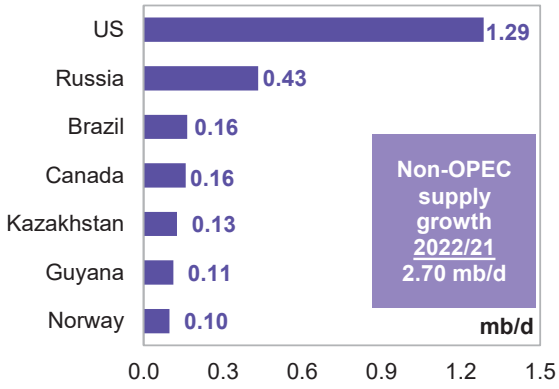
The **key drivers of non-OPEC liquids supply growth in 2021** are estimated to have been Canada, Russia, the US and China, while output is estimated to have declined in the UK, Brazil and Colombia.

Graph 5 - 2: Annual liquids production changes for selected countries in 2021*



*Note: * 2021 = Estimation. Source: OPEC.*

Graph 5 - 3: Annual liquids production changes for selected countries in 2022*



*Note: * 2022 = Forecast. Source: OPEC.*

For **2022**, the key drivers of non-OPEC supply growth are forecast to be the US, Russia, Canada, Brazil, Kazakhstan, Guyana and Norway, while oil production is projected to decline mainly in Indonesia and Thailand.

Non-OPEC liquids production in 2021 and 2022

Table 5 - 1: Non-OPEC liquids production in 2021*, mb/d

							Change 2021/20	
Non-OPEC liquids production	**2020**	**1Q21**	**2Q21**	**3Q21**	**4Q21**	**2021**	**Growth**	**%**
Americas	24.70	24.10	25.17	25.20	26.13	25.15	0.46	1.84
of which US	*17.61*	*16.63*	*17.93*	*17.85*	*18.58*	*17.75*	*0.15*	*0.83*
Europe	3.89	3.95	3.51	3.81	3.78	3.76	-0.13	-3.34
Asia Pacific	0.52	0.50	0.45	0.53	0.51	0.50	-0.02	-4.02
Total OECD	**29.11**	**28.55**	**29.13**	**29.53**	**30.42**	**29.41**	**0.30**	**1.05**
China	4.15	4.30	4.34	4.33	4.26	4.31	0.15	3.65
India	0.78	0.78	0.77	0.77	0.77	0.77	0.00	-0.44
Other Asia	2.51	2.51	2.45	2.33	2.35	2.41	-0.10	-4.09
Latin America	6.03	5.94	5.97	6.09	5.83	5.96	-0.08	-1.26
Middle East	3.19	3.22	3.23	3.24	3.27	3.24	0.05	1.46
Africa	1.41	1.37	1.35	1.32	1.32	1.34	-0.07	-5.28
Russia	10.59	10.47	10.74	10.81	11.17	10.80	0.21	1.95
Other Eurasia	2.92	2.96	2.89	2.79	3.08	2.93	0.02	0.57
Other Europe	0.12	0.12	0.11	0.11	0.11	0.11	-0.01	-4.66
Total Non-OECD	**31.71**	**31.66**	**31.86**	**31.79**	**32.17**	**31.87**	**0.16**	**0.50**
Total Non-OPEC production	60.82	60.22	60.98	61.32	62.59	61.28	0.46	0.76
Processing gains	2.15	2.28	2.28	2.28	2.28	2.28	0.13	6.03
Total Non-OPEC liquids production	**62.97**	**62.50**	**63.26**	**63.60**	**64.87**	**63.56**	**0.59**	**0.94**
Previous estimate	62.97	62.49	63.26	63.60	64.92	63.57	0.60	0.95
Revision	0.00	0.01	0.00	0.01	-0.05	-0.01	-0.01	-0.01

*Note: * 2021 = Estimation. Totals may not add up due to independent rounding. Source: OPEC.*

Table 5 - 2: Non-OPEC liquids production in 2022*, mb/d

Non-OPEC liquids production	2021	1Q22	2Q22	3Q22	4Q22	2022	Change 2022/21 Growth	Change 2022/21 %
Americas	25.15	25.92	26.30	26.95	27.32	26.63	1.47	5.86
of which US	*17.75*	*18.42*	*18.95*	*19.23*	*19.54*	*19.04*	*1.29*	*7.24*
Europe	3.76	3.77	3.74	3.80	4.12	3.86	0.10	2.64
Asia Pacific	0.50	0.50	0.54	0.53	0.53	0.52	0.02	5.00
Total OECD	**29.41**	**30.19**	**30.58**	**31.28**	**31.97**	**31.01**	**1.60**	**5.43**
China	4.31	4.45	4.31	4.35	4.43	4.38	0.08	1.80
India	0.77	0.77	0.78	0.80	0.83	0.79	0.02	2.78
Other Asia	2.41	2.41	2.39	2.37	2.36	2.38	-0.03	-1.19
Latin America	5.96	6.15	6.21	6.17	6.40	6.23	0.28	4.65
Middle East	3.24	3.30	3.35	3.37	3.37	3.35	0.11	3.27
Africa	1.34	1.31	1.27	1.25	1.23	1.27	-0.07	-5.58
Russia	10.80	11.33	11.23	11.16	11.20	11.23	0.43	4.01
Other Eurasia	2.93	3.05	3.03	3.17	3.22	3.12	0.19	6.36
Other Europe	0.11	0.11	0.11	0.10	0.10	0.10	-0.01	-6.90
Total Non-OECD	**31.87**	**32.88**	**32.68**	**32.75**	**33.13**	**32.86**	**0.99**	**3.11**
Total Non-OPEC production	61.28	63.08	63.26	64.03	65.10	63.87	2.59	4.22
Processing gains	2.28	2.39	2.39	2.39	2.39	2.39	0.11	4.91
Total Non-OPEC liquids production	**63.56**	**65.47**	**65.65**	**66.42**	**67.50**	**66.26**	**2.70**	**4.25**
Previous estimate	63.57	65.75	66.14	66.73	67.73	66.59	3.02	4.75
Revision	-0.01	-0.28	-0.49	-0.31	-0.23	-0.33	-0.32	-0.51

*Note: * 2021 = Estimation and 2022 = Forecast. Totals may not add up due to independent rounding. Source: OPEC.*

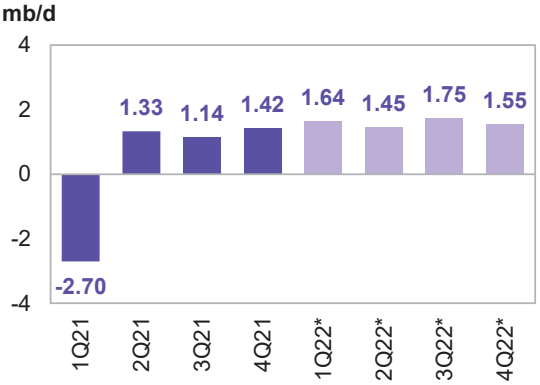
OECD

OECD liquids production in 2021 is estimated to have increased by 0.30 mb/d y-o-y to average 29.41 mb/d. This has been revised down m-o-m by 12 tb/d, owing to downward revisions in OECD Europe and OECD Americas by 7 tb/d and 6 tb/d, respectively, mainly due to biofuel revisions for the year.

OECD Americas is estimated to have grown by 0.46 mb/d to average 25.15 mb/d for the year. Production in OECD Europe and OECD Asia Pacific is estimated to have declined y-o-y by 0.13 mb/d and 0.02 mb/d to average 3.76 mb/d and 0.50 mb/d, respectively.

For **2022**, oil production in the OECD region is forecast to increase by 1.6 mb/d y-o-y, to average 31.01 mb/d. This has been revised up by 0.24 mb/d compared to a month earlier, amid an upward revision of 0.24 mb/d to OECD Americas, mainly due to higher shale oil production expectation in the US. At the same time, OECD Europe was revised up by a minor 6 tb/d.

Graph 5 - 4: OECD quarterly liquids supply, y-o-y changes



*Note: * 1Q22-4Q22 = Forecast. Source: OPEC.*

Based on these revisions, OECD Americas is forecast to grow by 1.47 mb/d, to average 26.63 mb/d. Oil production in OECD Europe and OECD Asia Pacific is anticipated to grow y-o-y by 0.10 mb/d and 0.02 mb/d to average 3.86 mb/d and 0.52 mb/d, respectively.

OECD Americas

US

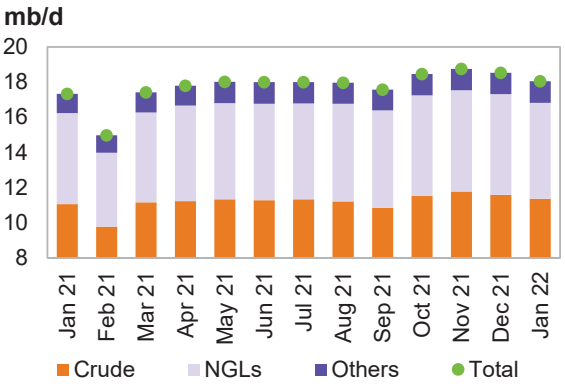
US liquids production in 2021 is estimated to have increased by 0.15 mb/d to average 17.75 mb/d, unchanged m-o-m. Crude oil output fell by 0.1 mb/d y-o-y to average 11.19 mb/d; on the other hand, NGLs production and non-conventional liquids, particularly ethanol, increased by 0.22 mb/d and 0.02 mb/d y-o-y to average 5.40 and 1.17 mb/d, respectively.

US liquids production declined m-o-m in **January 2022** by 0.47 mb/d to average 18.06 mb/d, but was higher by 0.72 mb/d compared with January 2021.

Crude oil and condensate production fell in **January 2022** by 216 tb/d m-o-m to average 11.37 mb/d, but was up by 0.32 mb/d y-o-y.

Regarding the crude and condensate production breakdown by region (PADDs), production declined mainly in the US Gulf Coast (USGC), dropping by 151 tb/d to average 8.06 mb/d. It also decreased slightly in all the other regions of the Midwest, Rocky Mountains, West Coast and East Coast, mainly due to freezing weather in January. The freeze-off of gas-gathering systems forced some oil wells to shut.

Graph 5 - 5: US monthly liquids output by key component



Source: OPEC.

NGLs production was down by 287 tb/d m-o-m to average 5.45 mb/d in January, but was higher by 0.26 mb/d y-o-y. Production of **non-conventional liquids** (mainly ethanol) increased by 31 tb/d m-o-m to average 1.24 mb/d, according to the US Department of Energy (DOE). Preliminary estimates see non-conventional liquids averaging 1.2 mb/d in February 2022, down by 43 tb/d compared to the previous month.

Production in the **Gulf of Mexico (GoM)** declined marginally m-o-m by 4 tb/d in January to average 1.7 mb/d.

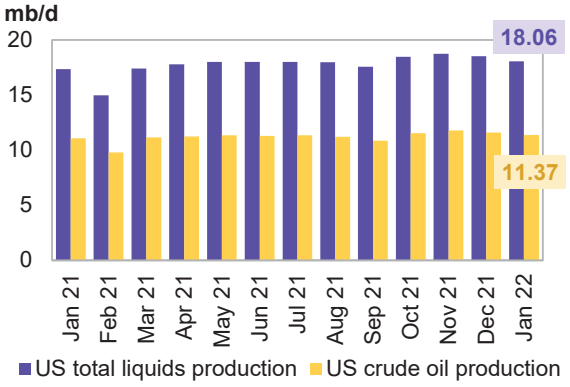
Looking at individual states, oil production in New Mexico declined by 24 tb/d m-o-m to average 1.3 mb/d, 253 tb/d higher than a year ago. Production in Texas decreased by 120 tb/d to average 4.9 mb/d, 206 tb/d higher than a year ago. Production in North Dakota dropped by 31 tb/d m-o-m to average 1.1 mb/d, broadly unchanged y-o-y. Production in Colorado was down slightly by 14 tb/d to average 0.4 mb/d. Oil output in Alaska and Oklahoma also showed marginal m-o-m decreases of 1 tb/d and 6 tb/d, respectively. In the onshore lower 48, January production fell m-o-m by 211 tb/d to average 9.2 mb/d.

Table 5 - 3: US crude oil production by selected state and region, tb/d

State	Jan 21	Dec 21	Jan 22	Change m-o-m	Change y-o-y
Texas	4,661	4,987	4,867	*-120*	*206*
Gulf of Mexico (GOM)	1,784	1,710	1,706	*-4*	*-78*
New Mexico	1,088	1,365	1,341	*-24*	*253*
North Dakota	1,094	1,126	1,095	*-31*	*1*
Alaska	458	451	450	*-1*	*-8*
Colorado	377	412	398	*-14*	*21*
Oklahoma	420	400	394	*-6*	*-26*
Total	**11,056**	**11,587**	**11,371**	***-216***	***315***

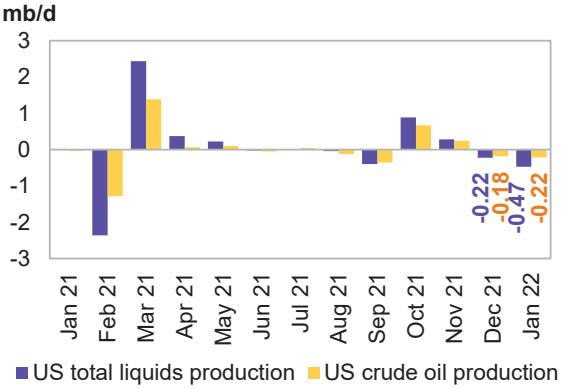
Sources: EIA and OPEC.

Graph 5 - 6: US monthly crude oil and total liquids supply



Sources: EIA and OPEC.

Graph 5 - 7: US monthly crude oil and total liquids supply, m-o-m changes



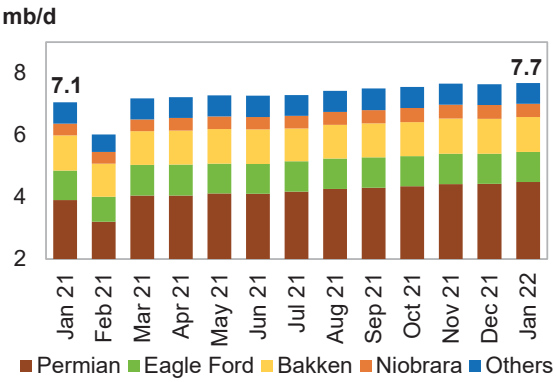
Sources: EIA and OPEC.

US tight crude output in **January 2022** increased by 40 tb/d m-o-m to average 7.68 mb/d, which was 629 tb/d higher than the same month a year earlier, according to US Energy Information Administration (EIA) estimates.

The m-o-m increase from shale and tight formations through horizontal wells came mostly from the Permian, which increased by 51 tb/d to average 4.5 mb/d. This was up by 0.58 mb/d y-o-y.

In the Williston Basin, production in the Bakken shale rose marginally by 4 tb/d to average 1.13 mb/d, but was down by 5 tb/d y-o-y. Tight crude output at Eagle Ford in Texas rose by a minor 5 tb/d to average 0.97 mb/d up by 18 tb/d y-o-y, while production in Niobrara-Codell in Colorado and Wyoming was down by 20 tb/d to average 0.43 mb/d.

Graph 5 - 8: US tight crude output breakdown



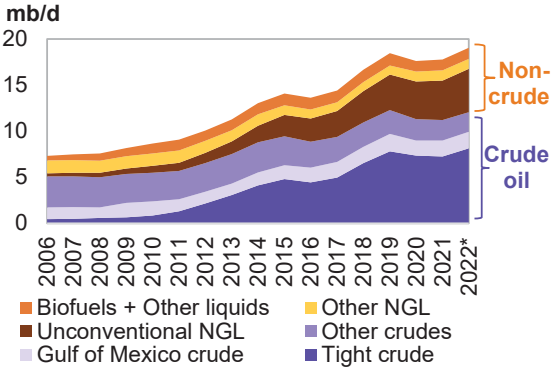
Sources: EIA, Rystad Energy and OPEC.

Average tight crude output in **2021** is estimated at 7.26 mb/d, according to the latest information from the EIA.

US liquids production in 2022, excluding processing gains, is forecast to grow y-o-y by 1.29 mb/d to average 19.04 mb/d, up by 0.26 mb/d from the previous assessment. The 2022 gains are due primarily to expected tight crude production growth of 0.88 mb/d, unconventional NGLs growth of 0.42 mb/d and projected growth of 0.08 mb/d in the GoM. However, the expected growth will be partially offset by natural declines in onshore conventional fields of 0.1 mb/d y-o-y.

Given the current pace of drilling and well completions in oil fields, **production of crude oil and condensate** is forecast to grow by 0.86 mb/d y-o-y to average 12.04 mb/d in 2022. This forecast assumes ongoing capital discipline, current inflation rates, continuing supply chain issues, and the oil field service section limitations.

Graph 5 - 9: US liquids supply developments by component



*Note: * 2021 = Estimation and 2022 = Forecast.*
Source: OPEC.

US tight crude oil production is forecast to rise by 0.88 mb/d in 2022, to average 8.14 mb/d. Production of **NGLs**, mainly from unconventional shale, is forecast to increase by 0.4 mb/d to average 5.8 mb/d. **Non-conventional liquids** are projected to grow by 0.04 mb/d to average 1.21 mb/d.

Table 5 - 4: US liquids production breakdown, mb/d

US liquids	2020	Change 2020/19	2021	Change 2021/20	2022*	Change 2022/21
Tight crude	7.33	-0.46	7.26	-0.07	8.14	0.88
Gulf of Mexico crude	1.64	-0.25	1.70	0.06	1.78	0.08
Conventional crude oil	2.31	-0.30	2.23	-0.09	2.13	-0.10
Total crude	**11.28**	**-1.01**	**11.19**	**-0.10**	**12.04**	**0.86**
Unconventional NGLs	4.09	0.25	4.28	0.20	4.70	0.42
Conventional NGLs	1.09	0.10	1.12	0.03	1.10	-0.02
Total NGLs	**5.17**	**0.35**	**5.40**	**0.22**	**5.80**	**0.40**
Biofuels + Other liquids	1.15	-0.20	1.17	0.02	1.21	0.04
US total supply	**17.61**	**-0.86**	**17.75**	**0.15**	**19.04**	**1.29**

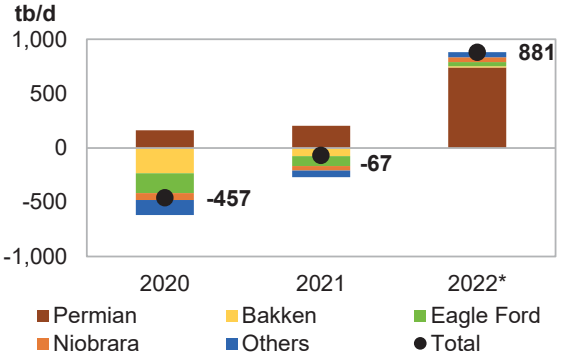
*Note: * 2021 = Estimation and 2022 = Forecast. Sources: EIA, OPEC and Rystad Energy.*

US tight crude production in the Permian in **2021** is estimated to have increased by 203 tb/d to 4.1 mb/d and is forecast to grow by 740 tb/d y-o-y to average 4.9 mb/d in **2022**.

The decline rate in Bakken shale production slowed in 2021 compared to 2020, from a contraction of 235 tb/d to a decline of 75 tb/d. Production is now estimated to average 1.1 mb/d in 2021. For 2022, tight crude production from the Bakken shale is forecast to grow by 11 tb/d on the back of increased drilling activity in North Dakota and available DUC wells.

The Eagle Ford in Texas is estimated to have declined by 93 tb/d in 2021 to average 0.96 mb/d, but it is forecast to expand in 2022 by 38 tb/d to average 1.0 mb/d. The rig-weighted average productivity (new-well oil production per rig) shows a m-o-m drop of 63 b/d in the Eagle Ford, according to the EIA-DPR (Drilling Productivity Report) forecast for April 2022. However, overall Eagle Ford production is expected to increase m-o-m by 23 tb/d over the month.

Graph 5 - 10: US tight crude output by shale play, y-o-y changes



*Note: * 2021 = Estimation and 2022 = Forecast.*
Sources: EIA, Rystad Energy and OPEC.

Production in the Niobrara, following an estimated decline of 40 tb/d in 2021, is likely to grow by 45 tb/d y-o-y in 2022, to average 0.46 mb/d. Other shale plays are expected to show marginal increases totalling 46 tb/d in 2022, given current drilling activities.

Table 5 - 5: US tight oil production growth, mb/d

US tight oil	2020	Change 2020/19	2021	Change 2021/20	2022*	Change 2022/21
Permian tight	3.91	0.16	4.11	0.20	4.85	0.74
Bakken shale	1.18	-0.23	1.10	-0.07	1.12	0.01
Eagle Ford shale	1.05	-0.18	0.96	-0.09	1.00	0.04
Niobrara shale	0.45	-0.06	0.41	-0.04	0.46	0.04
Other tight plays	0.73	-0.14	0.67	-0.06	0.72	0.05
Total	**7.33**	**-0.46**	**7.26**	**-0.07**	**8.14**	**0.88**

*Note: * 2021 = Estimation and 2022 = Forecast. Source: OPEC.*

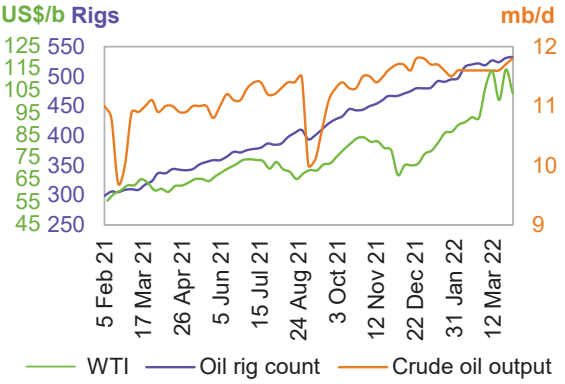
US rig count, spudded, completed, DUC wells and fracking activity

Total **US active drilling rigs** have increased by 3 to 673 rigs in the week ending 1 April, which is 243 more rigs than a year ago. The number of active offshore rigs was steady w-o-w at 14, the same as in 2021. Moreover, 657 rigs (oil and gas) were active onshore, up by four w-o-w, with two in inland waters.

The US horizontal rig count rose by three rigs w-o-w to 613 rigs, compared to 391 horizontal rigs a year ago. The number of drilling rigs for oil and gas climbed by two to 533 and by one to 138, respectively, w-o-w.

Overall, in all major basins the number of rigs did not drop, except for the oil part of the Williston basin, as well as the gas part of the Haynesville basin, which dropped by one rig on the weekly count.

Graph 5 - 11: US weekly rig count vs. US crude oil output and WTI price



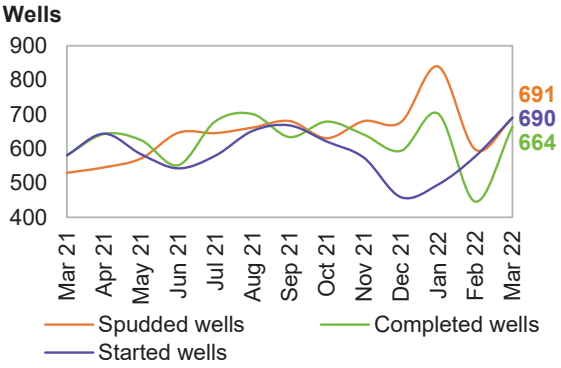
Sources: Baker Hughes, EIA and OPEC.

While the rig count in the Permian increased by four w-o-w to 323 rigs, the number of active rigs remains unchanged at 56 in the Eagle Ford and 14 in the DJ-Niobrara basins. They declined by one in the Williston to 33, while increasing by one in Cana Woodford to 25. Three rigs also have been operating in the Barnett basin for eight consecutive weeks.

Drilling and completion (D&C) activities for spudded, completed and started wells in all US shale plays, based on the EIA DPR regions, saw 598 horizontal wells spudded in February 2022 (as per preliminary data), down by 242 m-o-m, and 31% higher than in February 2021.

In February 2022, preliminary data indicates a lower number of completed wells at 446, up by 15%, y-o-y. Moreover, the number of started wells were estimated at 578, which is 65% higher than in February 2021. Preliminary data for March estimates 691 spudded, 664 completed and 690 started wells, according to Rystad Energy.

Graph 5 - 12: Spudded, completed and started wells in US shale plays

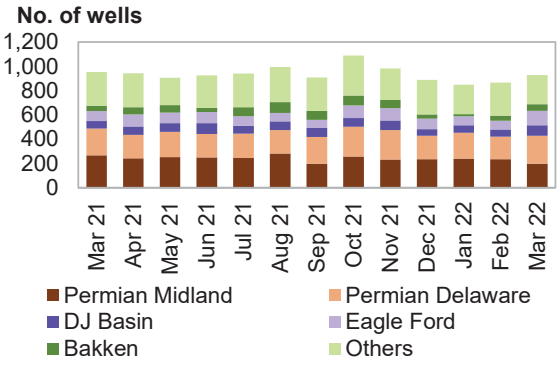


Note: Mar 22 = Preliminary data.
Sources: Rystad Energy and OPEC.

In terms of identified **US oil and gas fracking operations** by region, Rystad Energy reported that after the highest number of fracked wells seen since March 2020, with 1,089 fracked in October 2021, 871 and 956 wells started to frack in February and March, respectively. This preliminary number is based on analysis of high-frequency satellite data.

Preliminary data on fracking in March shows that 198 and 231 wells were fracked in the Permian Midland Tight and Permian Delaware Tight, respectively. In comparison with February, there was a drop of 36 wells fracked in the Midland and a jump of 45 wells fracked in the Delaware tight, according to preliminary data. Data also indicated that 86 wells were fracked in the DJ Basin, 118 in the Eagle Ford and 54 in the Bakken in March.

Graph 5 - 13: Fracked wells count per month



Note: Mar 22 = Preliminary data.
Sources: Rystad Energy Shale Well Cube and OPEC.

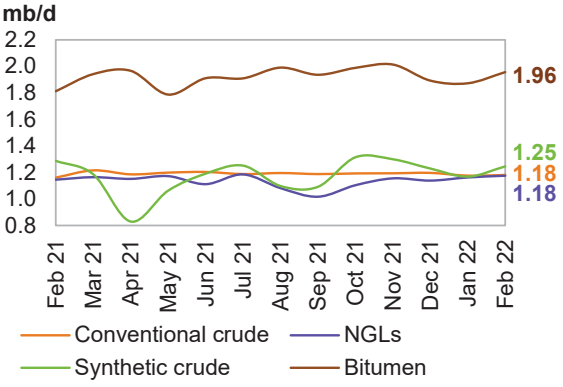
Canada

Canada's liquids production in **February** is estimated to have increased m-o-m by 179 tb/d to average 5.6 mb/d.

Crude bitumen production and synthetic crude output increased by 84 tb/d and 77 tb/d, respectively. Taken together, crude bitumen and synthetic crude output jumped by 161 tb/d to 3.2 mb/d. At the same time, production of conventional crude and NGLs also increased slightly to average 1.18 mb/d, each.

Following freezing weather in December and early January, most oil sands operators managed to continue to pump higher volumes of crude bitumen and synthetic crude in February. Additional turnarounds in sand mine facilities are expected to affect 1Q22 production rates.

Graph 5 - 14: Canada's monthly liquids production development by type

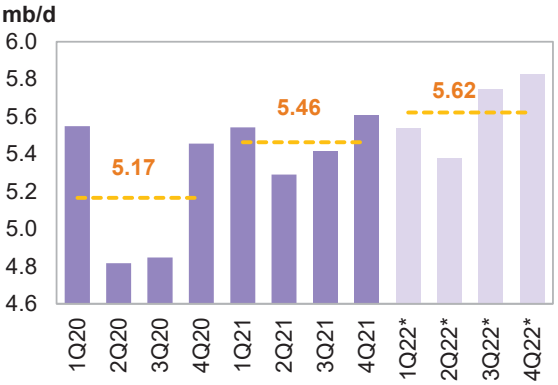


Sources: National Energy Board and OPEC.

Lower-than-forecast monthly liquids output throughout 4Q21 has necessitated a slight downward revision of 3 tb/d to Canadian liquids supply for **2021**. Growth is now estimated at 0.3 mb/d for a yearly average of 5.46 mb/d.

For **2022**, Canada's liquids production is forecast to increase at a slower pace compared with 2021, rising by 0.16 mb/d to average 5.65 mb/d, showing a downward revision of 21 tb/d from last month's report. Lower production in 1Q22 is projected to be compensated by the end of the year on the back of higher investment in oil sands basins. However, production in 2Q22 is expected to decline amid maintenance in the major oil sand plays.

Graph 5 - 15: Canada's quarterly liquids production and forecast



*Note: * 1Q22-4Q22 = Forecast. Source: OPEC.*

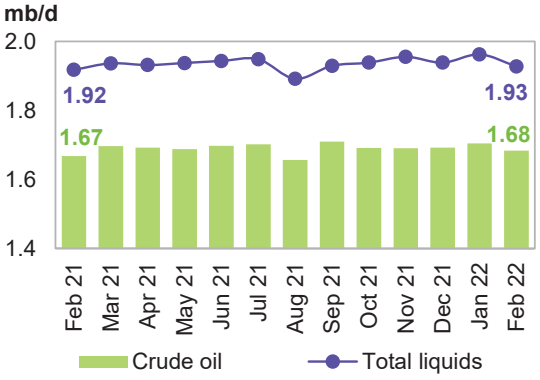
Mexico

Mexico's crude output declined slightly in **February** by 21 tb/d to average 1.68 mb/d. NGLs output decreased by 14 tb/d. Therefore, Mexico's total liquids output in February decreased by 35 tb/d m-o-m, to average 1.93 mb/d. Unfavourable weather disrupted vessel loadings early in the month and likely caused the drop in production.

For **2021**, liquids production in Mexico is estimated to have grown by 0.01 mb/d to average 1.93 mb/d, unchanged from the previous assessment.

For **2022**, growth is forecast at 0.03 mb/d to average 1.96 mb/d. Pemex's total crude production in mature fields continues to decline, while the foreign-operated field output is expected to rise. Two new small fields started production in January, Pemex's Esah and Suuk fields, and averaged 8,000 b/d together. They are in Pemex's group of fields designated earlier for priority development.

Graph 5 - 16: Mexico's monthly liquids and crude production development



Sources: PEMEX and OPEC.

OECD Europe

Norway

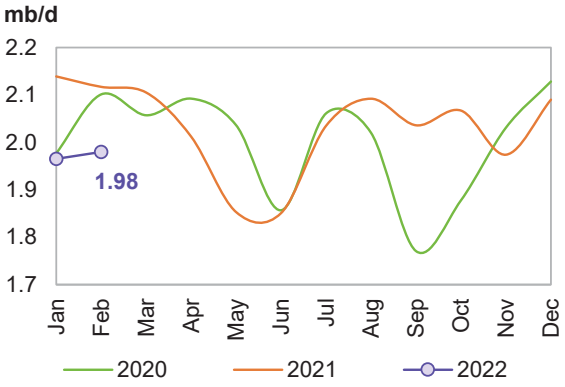
Norwegian liquids production in **February** rose by 15 tb/d m-o-m to average 1.98 mb/d.

Following an 11-year high in December 2021 and a significant drop of 113 tb/d in January, Norway's crude production increased by 27 tb/d m-o-m in **February** to average 1.76 mb/d, down by 42 tb/d y-o-y. Oil production in February is 3.7% lower than the Norwegian Petroleum Directorate's (NPD) forecast. Production of NGLs and condensates marginally declined by 12 tb/d m-o-m to average 0.22 mb/d, according to NPD data.

For **2021**, Norway's liquids supply growth is estimated to have expanded by 31 tb/d to average 2.03 mb/d.

For **2022**, Norway's liquids production is expected to grow by 0.1 mb/d to average 2.13 mb/d, revised down slightly by 3 tb/d from last month's assessment. This downward revision was mainly because of lower-than-expected production in 1Q22. However, following the end of maintenance season curtailment in 2Q22, the main boost to be in 4Q22 when the second phase of the Johan Sverdrup field development starts up production.

Graph 5 - 17: Norway's monthly liquids production development



Sources: NPD and OPEC.

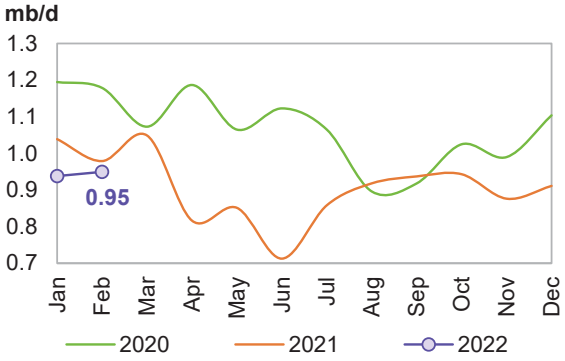
UK

UK liquids production increased in **February** by 11 tb/d m-o-m to average 0.95 mb/d. Crude oil output increased marginally by 3 tb/d m-o-m to average 0.81 mb/d, according to official data, but was down by 44 tb/d y-o-y. NGLs output also rose marginally m-o-m by 8 tb/d in February to average 101 tb/d.

For **2021**, UK liquids production is estimated to have contracted by 0.16 mb/d to average 0.91 mb/d.

For **2022**, UK liquids production is forecast to grow by a minor 0.02 mb/d to average 0.93 mb/d, following two consecutive years of heavy declines. Lower investment levels and poor mature reservoir performance have been the cause of this weak growth. However, liquids production in 2022 is expected to be supported by multiple new developments.

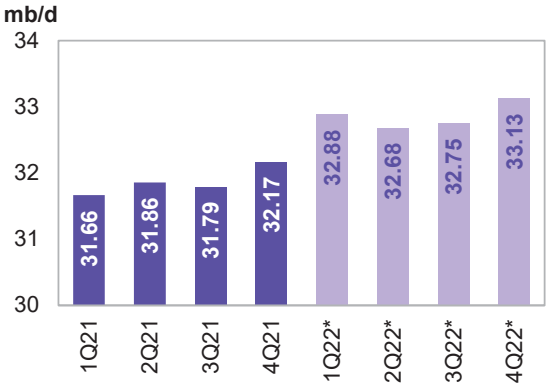
Graph 5 - 18: UK monthly liquids production development



Sources: Department of Energy & Climate Change and OPEC.

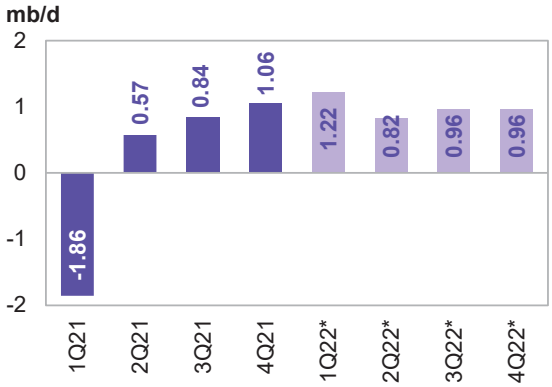
Non-OECD

Graph 5 - 19: Non-OECD quarterly liquids production and forecast



*Note: * 1Q22-4Q22 = Forecast. Source: OPEC.*

Graph 5 - 20: Non-OECD quarterly liquids supply, y-o-y changes

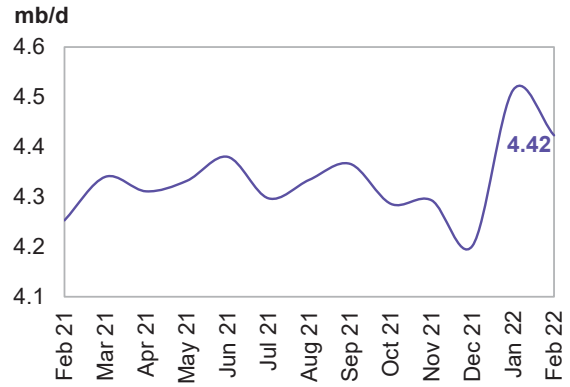


*Note: * 1Q22-4Q22 = Forecast. Source: OPEC.*

China

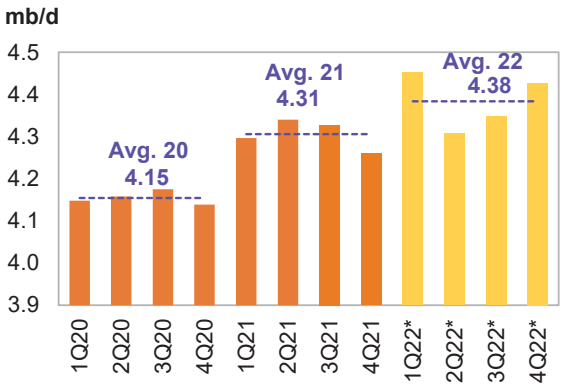
China's liquids production declined by 91 tb/d m-o-m in **February** to average 4.4 mb/d, which was up by 170 tb/d y-o-y, according to official data. Crude oil output in February decreased by 92 tb/d to average 4.09 mb/d, higher by 153 tb/d y-o-y.

Graph 5 - 21: China's monthly liquids production development



Sources: CNPC and OPEC.

Graph 5 - 22: China's quarterly liquids production and forecast



*Note: * 1Q22-4Q22 = Forecast. Sources: CNPC and OPEC.*

For **2021**, China's liquids supply is estimated to have grown by 0.15 mb/d y-o-y, to average 4.31 mb/d. For **2022**, growth of 0.08 mb/d is forecast for an average of 4.38 mb/d, revised up by 20 tb/d on the upward revision to January production data.

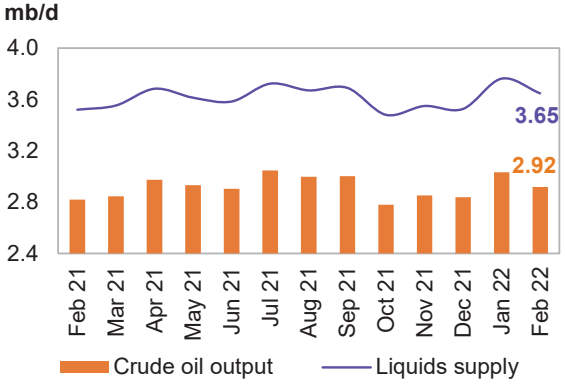
Natural decline rates are expected to be offset by Chinese companies' investments in new project start-ups, additional in-fill wells and EOR projects. China National Offshore Oil Company (CNOOC) announced $13 bn worth of deals to boost oil and gas supply, as the country aims to avoid a repeat of last year's energy crunch, Bloomberg reported.

Latin America

Brazil

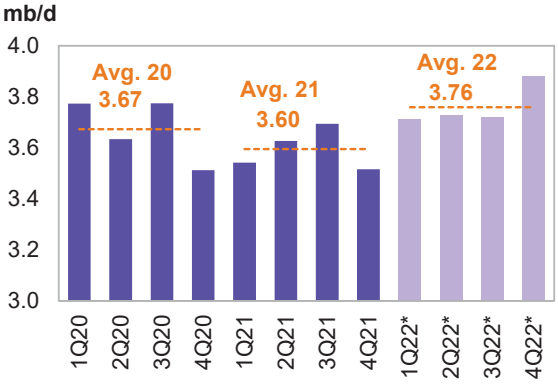
Brazil's crude output in **February** decreased by 115 tb/d m-o-m to average 2.92 mb/d. NGLs production remained broadly unchanged at an average of 98 tb/d and is expected to remain flat in March. Biofuel output (mainly ethanol) remained unchanged in February to average 632 tb/d, with preliminary data showing a flat trend in March as well. Therefore, in February, total liquids production decreased by 115 tb/d to average 3.65 mb/d, higher by 0.1 mb/d y-o-y.

Graph 5 - 23: Brazil's monthly liquids production development by type



Sources: ANP, Petrobras and OPEC.

Graph 5 - 24: Brazil's quarterly liquids production



*Note: * 1Q22-4Q22 = Forecast. Sources: ANP and OPEC.*

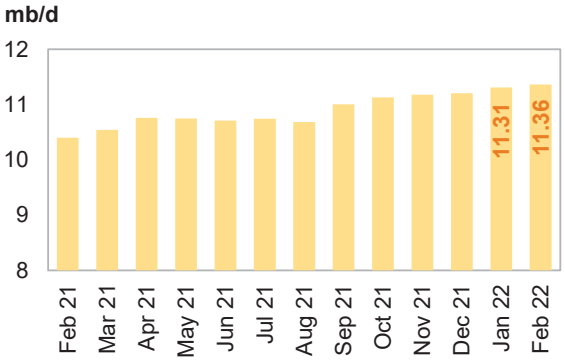
Liquids supply for **2021** is estimated to have averaged 3.60 m/d, a decline of 0.08 mb/d y-o-y, unchanged from the previous month's assessment.

For **2022**, Brazil's liquids supply, including biofuels, is forecast to increase by 0.16 mb/d y-o-y to average 3.76 mb/d, revised down by a minor 11 tb/d, mainly due to an expected decline after extended offshore maintenance in the Tupi and Buzious fields. Petrobras stated that it would need to scale back production at the Atapua field owing to gas flaring issues, which could affect production in the coming months. Equinor also announced that it would restart production at the Peregrino oil field, which has been down since early 2020 because of a riser issue, after the beginning of summer. The main growth in 2022 will be driven by the continued ramp-up of the Sepia field which came online in August 2021, along with two start-ups of Mero 1 and Peregrino Phase 2. The Mero-1 (FPSO Guanabara) was planned for processing capacity of 180,000 b/d of oil and 12 MMcm/d of gas.

Russia

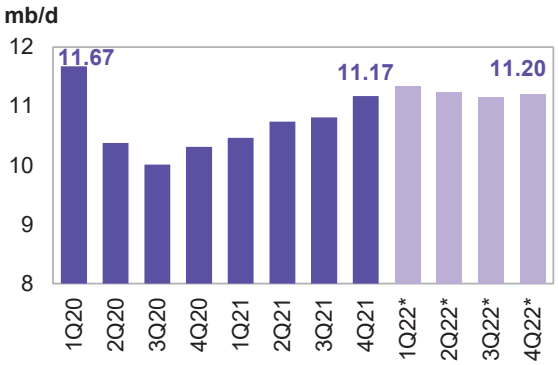
Russia's liquids production in February rose m-o-m by 54 tb/d to average 11.36 mb/d. This includes 10.06 mb/d of crude oil and condensate and 1.03 mb/d of NGLs. A preliminary estimate for Russia's crude and condensate production in March 2022 based on the Ministry of Energy's production data shows an expected decrease of 37 tb/d m-o-m for crude and condensate to average 10.03 mb/d, while NGLs remain flat.

Graph 5 - 25: Russia's monthly liquids production



Sources: Nefte Compass, The Ministry of Energy of the Russian Federation and OPEC.

Graph 5 - 26: Russia's quarterly liquids production



*Note: * 1Q22-4Q22 = Forecast.*
Sources: Nefte Compass and OPEC.

Annual liquids production in **2021** is estimated to have increased by 0.2 mb/d y-o-y to average 10.80 mb/d.

For **2022**, Russian liquids output is expected to increase by 0.43 mb/d to average 11.23 mb/d, revised down by 0.53 mb/d, compared to the previous assessment. However, it should be noted that this forecast is subject to very high uncertainty, given the current geopolitical developments. The 1Q22 forecast was reduced by 116 tb/d, due to lower-than-expected actual crude and condensate production in this period.

Caspian

Kazakhstan & Azerbaijan

Liquids output in Kazakhstan increased slightly by 3 tb/d to average 1.99 mb/d in **February**. Crude production rose by 31 tb/d m-o-m to average 1.63 mb/d, the highest output since April 2020. Production of NGLs declined by 28 tb/d m-o-m in February to average 0.36 mb/d.

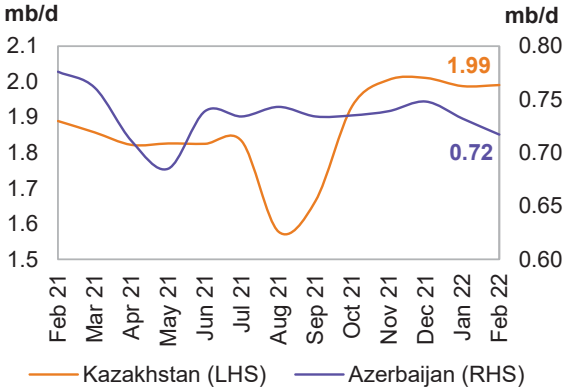
Kazakhstan's liquids supply forecast for **2021** is estimated to have averaged 1.84 mb/d, higher by 0.01 mb/d y-o-y. For **2022**, liquids supply is forecast to grow by 0.13 mb/d to average 1.96 mb/d, revised down by 29 tb/d. The downward revision was necessitated by the disruption in the Caspian Pipeline Consortium (CPC) terminal in the Black Sea as of 21 March. The Kazakh Energy Ministry said it may have to cut crude and condensate production by about 320,000 b/d until the end of April, while repairs are being carried out at the terminal.

Azerbaijan's liquids production in February dropped slightly m-o-m by 15 tb/d to average 0.72 mb/d, down by 59 tb/d y-o-y. Crude production declined by 15 tb/d m-o-m to average 566 tb/d. NGLs output held steady at 150 tb/d, according to official sources. Most of the decline in the ACG crude is expected to be partially offset by Shah Deniz Phase 2 condensate output, which came online in July 2021.

Azerbaijan's liquids production is expected to increase in March 2022 to average 0.8 mb/d.

For **2021**, liquids supply is estimated to have grown by 0.01 mb/d y-o-y to average 0.74 mb/d, while for **2022**, y-o-y growth of 0.07 mb/d is forecast for an average of 0.81 mb/d, revised down by 10 tb/d on lower-than-expected production in 1Q22.

Graph 5 - 27: Caspian monthly liquids production development by selected country



Sources: Nefte Compass and OPEC.

OPEC NGLs and non-conventional oils

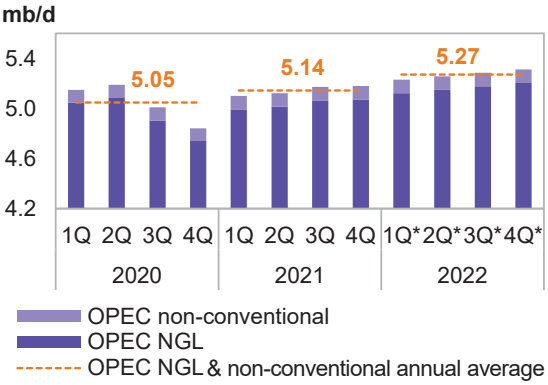
OPEC NGLs and non-conventional liquids in 2021 are estimated to have grown by 0.1 mb/d, to average 5.14 mb/d.

Production of OPEC NGLs and non-conventional oils has declined from 5.35 mb/d in 2Q18. In 2021, output increased from 5.1 mb/d in 1Q21 to 5.18 mb/d in 4Q21.

Preliminary output of NGLs in 1Q22 is estimated to have averaged 5.12 mb/d, while OPEC non-conventionals remained steady at 0.11 mb/d.

For **2022**, OPEC NGLs and non-conventional liquids production is forecast to grow by 0.13 mb/d to average 5.27 mb/d.

Graph 5 - 28: OPEC NGLs and non-conventional liquids quarterly production and forecast



*Note: * 1Q22-4Q22 = Forecast. Source: OPEC.*

Table 5 - 6: OPEC NGL + non-conventional oils, mb/d

OPEC NGL and non-coventional oils	2020	Change 20/19	2021	Change 21/20	1Q22	2Q22	3Q22	4Q22	2022	Change 22/21
OPEC NGL	**4.94**	*-0.18*	**5.04**	*0.09*	5.12	5.15	5.18	5.20	**5.16**	*0.13*
OPEC non-conventional	**0.10**	*0.01*	**0.11**	*0.00*	0.11	0.11	0.11	0.11	**0.11**	*0.00*
Total	**5.05**	***-0.17***	**5.14**	***0.10***	**5.23**	**5.26**	**5.29**	**5.31**	**5.27**	***0.13***

Note: 2021 = Estimation and 2022 = Forecast. Source: OPEC.

OPEC crude oil production

According to secondary sources, total **OPEC-13 crude oil production** averaged 28.56 mb/d in March 2022, higher by 57 tb/d m-o-m. Crude oil output increased mainly in Saudi Arabia, Kuwait and the UAE, while production in Libya, Nigeria and Congo declined.

Table 5 - 7: OPEC crude oil production based on *secondary sources*, tb/d [1]

Secondary sources	2020	2021	3Q21	4Q21	1Q22	Jan 22	Feb 22	Mar 22	*Change* Mar/Feb
Algeria	904	913	926	958	983	975	979	993	*14*
Angola	1,247	1,117	1,108	1,124	1,155	1,146	1,164	1,156	*-8*
Congo	294	271	266	269	265	262	275	260	*-15*
Equatorial Guinea	114	100	99	91	92	96	88	92	*4*
Gabon	194	186	184	188	192	191	195	192	*-4*
IR Iran	1,991	2,392	2,472	2,472	2,528	2,499	2,539	2,546	*7*
Iraq	4,076	4,049	4,078	4,240	4,286	4,253	4,298	4,309	*11*
Kuwait	2,439	2,419	2,448	2,532	2,612	2,584	2,614	2,639	*25*
Libya	367	1,143	1,146	1,111	1,062	1,006	1,111	1,074	*-37*
Nigeria	1,575	1,372	1,335	1,321	1,382	1,413	1,378	1,354	*-24*
Saudi Arabia	9,204	9,111	9,554	9,879	10,176	10,060	10,208	10,262	*54*
UAE	2,804	2,727	2,770	2,861	2,958	2,932	2,960	2,983	*23*
Venezuela	512	555	540	662	682	662	689	697	*8*
Total OPEC	**25,722**	**26,355**	**26,925**	**27,708**	**28,375**	**28,079**	**28,500**	**28,557**	***57***

Notes: Totals may not add up due to independent rounding, given available secondary sources to date. Source: OPEC.

Table 5 - 8: OPEC crude oil production based on *direct communication*, tb/d

Direct communication	2020	2021	3Q21	4Q21	1Q22	Jan 22	Feb 22	Mar 22	*Change* Mar/Feb
Algeria	899	911	924	958	984	977	978	996	*18*
Angola	1,271	1,124	1,114	1,122	1,161	1,193	1,158	1,133	*-25*
Congo	300	267	266	260	267	275	260	264	*4*
Equatorial Guinea	114	94	94	79	95	96	95	95	*0*
Gabon	207	181	180	183	197	199	195	198	*3*
IR Iran	..	..	..	..	..	..	..	..	*..*
Iraq	3,997	3,971	3,979	4,167	4,188	4,162	4,260	4,148	*-112*
Kuwait	2,438	2,415	2,447	2,528	2,612	2,584	2,612	2,639	*27*
Libya	389	1,207	1,220	1,182	..	1,075	1,220	..	*..*
Nigeria	1,493	1,312	1,270	1,233	1,299	1,399	1,258	1,238	*-20*
Saudi Arabia	9,213	9,125	9,565	9,905	10,224	10,145	10,225	10,300	*75*
UAE	2,779	2,718	2,758	2,854	2,949	2,924	2,954	2,970	*16*
Venezuela	569	636	635	817	756	755	788	728	*-61*
Total OPEC	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	***..***

Notes: .. Not available. Totals may not add up due to independent rounding. Source: OPEC.

[1] *It should be noted that the figures shown in Table 5 - 7 have changed since the March 2022 MOMR issue, as the composition of the set of secondary sources has changed.*

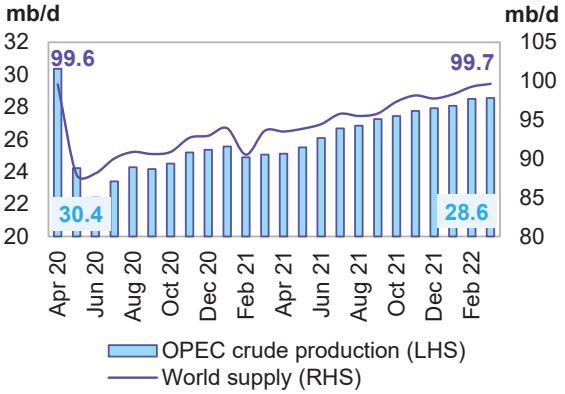
World oil supply

Preliminary data indicates that **global liquids production in March** increased by 0.37 mb/d to average 99.66 mb/d compared with the previous month.

Non-OPEC liquids production (including OPEC NGLs) is estimated to have increased in March by 0.32 mb/d m-o-m to average 71.10 mb/d, higher by 2.54 mb/d y-o-y. Preliminary estimated increases in production during March were mainly driven from the US and Norway by 0.26 mb/d, due to the ending of outages, improved weather conditions, and shale oil production increases.

The **share of OPEC crude oil in total global production** decreased by 0.1 pp to 28.7% in March compared with the previous month. Estimates are based on preliminary data from direct communication for non-OPEC supply, OPEC NGLs and non-conventional oil, while estimates for OPEC crude production are based on secondary sources.

Graph 5 - 29: OPEC crude production and world oil supply development



Source: OPEC.

Commercial Stock Movements

Preliminary February data sees total OECD commercial oil stocks down m-o-m by 22.8 mb. At 2,599 mb, they were 372 mb less than the same time one year ago, 334 mb lower than the latest five-year average and 321 mb below the 2015-2019 average. Within the components, crude stocks rose m-o-m by 0.7 mb, while products stocks fell m-o-m by 23.5 mb.

At 1,254 mb, OECD crude stocks were 185 mb lower than the latest five-year average and 194 mb below the 2015-2019 average. OECD product stocks stood at 1,345 mb, representing a deficit of 148 mb compared with the latest five-year average and 128 mb below the 2015-2019 average.

In terms of days of forward cover, OECD commercial stocks fell m-o-m by 0.6 days in February to stand at 57.3 days. This is 11.0 days below February 2021 levels, 8.6 days less than the latest five-year average and 5.2 days lower than the 2015-2019 average.

Preliminary data for March showed that total US commercial oil stocks fell m-o-m by 11.4 mb to stand at 1,144 mb. This is 157.9 mb lower than the same month in 2021 and 137.4 mb below the latest five-year average. Crude and product stocks fell m-o-m by 1.1 mb and 10.3 mb, respectively.

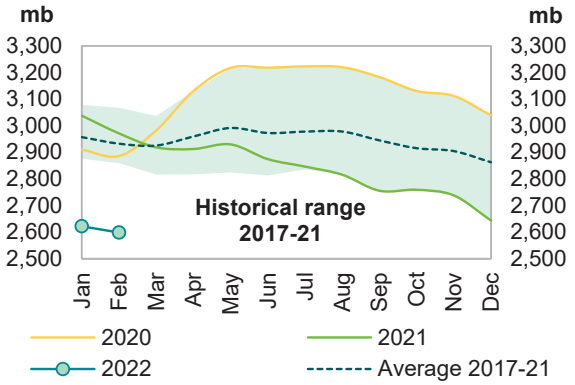
OECD

Preliminary February data sees **total OECD commercial oil stocks** down m-o-m by 22.8 mb. At 2,599 mb, they were 372 mb less than the same time one year ago, 334 mb lower than the latest five-year average and 321 mb below the 2015-2019 average.

Within the components, crude stocks rose m-o-m by 0.7 mb, while products stocks fell m-o-m by 23.5 mb. Total commercial oil stocks in February declined in all OECD regions.

OECD **commercial crude stocks** stood at 1,254 mb in February. This is 194 mb lower than the same time a year ago and 185 mb below the latest five-year average. Compared with the previous month, OECD Americas saw a stock draw of 0.8 mb, while OECD Asia Pacific and OECD Europe rose by 0.1 and 1.5 mb respectively.

Graph 9 - 1: OECD commercial oil stocks



Sources: Argus, EIA, Euroilstock, IEA, METI and OPEC.

Total product inventories stood at 1,345 mb in February. This is 179 mb less than the same time a year ago, and 148 mb lower than the latest five-year average. Product stocks in OECD Americas and OECD Asia Pacific fell m-o-m by 13.7 mb and 5 mb respectively, meanwhile product stocks fell m-o-m by 4.8 mb in OECD Europe.

Table 9 - 1: OECD's commercial stocks, mb

					Change
OECD stocks	**Feb 21**	**Dec 21**	**Jan 22**	**Feb 22**	**Feb 22/Jan 22**
Crude oil	1,447	1,270	1,253	1,254	*0.7*
Products	1,524	1,373	1,368	1,345	*-23.5*
Total	**2,971**	**2,643**	**2,621**	**2,599**	***-22.8***
Days of forward cover	**68.4**	**59.1**	**58.0**	**57.3**	***-0.6***

Note: Totals may not add up due to independent rounding.

Sources: Argus, EIA, Euroilstock, IEA, METI and OPEC.

In terms of **days of forward cover**, OECD commercial stocks fell m-o-m by 0.6 days in February to stand at 57.3 days. This is 11.0 days below February 2021 levels, 8.6 days less than the latest five-year average and 5.2 days lower than the 2015-2019 average. All three OECD regions were below the latest five-year average: the Americas by 7.3 days at 57.3 days, Asia Pacific by 8.0 days at 43.7 days and Europe by 11.8 days at 64.9 days.

OECD Americas

OECD Americas total commercial stocks fell by 14.5 mb m-o-m in February to settle at 1,430 mb. This is 132 mb less than the same month in 2021 and 107 mb lower than the latest five-year average.

Commercial crude oil stocks in OECD Americas fell m-o-m by 0.8 mb in February to stand at 736 mb, which is 81 mb lower than in February 2021 and 52 mb less than the latest five-year average. The stock draw came on the back of lower February crude imports in the US.

Total product stocks in OECD Americas also fell m-o-m by 13.7 mb in February to stand at 693 mb. This was 51 mb lower than in the same month of 2021 and 55 mb below the latest five-year average. Higher total consumption in the region was behind the stock draw.

OECD Europe

OECD Europe total commercial stocks fell m-o-m by 3.3 mb in February to settle at 852 mb. This is 177 mb less than the same month in 2021 and 153 mb below the latest five-year average.

OECD Europe's **commercial crude stocks** in February rose m-o-m by 1.5 mb to end the month at 362 mb, which is 64 mb lower than one year ago and 68 mb below the latest five-year average. The build in crude oil inventories came on the back of lower m-o-m refinery throughputs in the EU-14, plus the UK and Norway, which declined by 0.07 mb/d m-o-m to stand at 9.52 mb/d.

By contrast, Europe's **commercial product stocks** fell m-o-m by 4.8 mb to end February at 489 mb. This is 113 mb lower than a year ago and 86 mb below the latest five-year average.

OECD Asia Pacific

OECD Asia Pacific's total commercial oil stocks fell m-o-m by 5.0 mb in February to stand at 317 mb. This is 64 mb lower than a year ago and 73 mb below the latest five-year average.

OECD Asia Pacific's **crude inventories** rose by 0.1 mb m-o-m to end February at 155 mb, which is 49 mb lower than one year ago and 66 mb below the latest five-year average.

OECD Asia Pacific's **total product inventories** fell m-o-m by 5.0 mb to end February at 162 mb. This is 15 mb lower than the same time a year ago and 8.0mb below the latest five-year average.

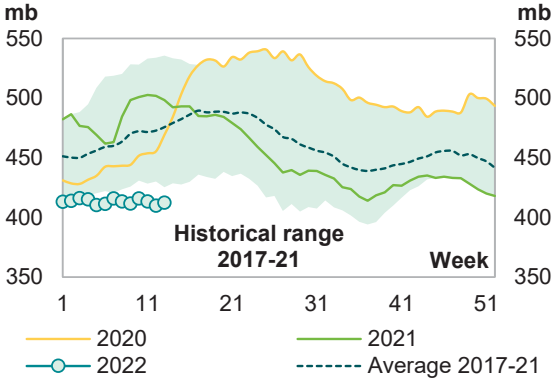
US

Preliminary data for March showed that **total US commercial oil stocks** fell m-o-m by 11.4 mb to stand at 1,144 mb. This is 157.9 mb, or 12.1%, lower than the same month in 2021 and 137.4 mb, or 10.7%, below the latest five-year average. Crude and product stocks fell m-o-m by 1.1 mb and 10.3 mb, respectively.

US **commercial crude stocks** in March stood at 412.4 mb. This is 89.5 mb, or 17.8%, lower than the same month of the previous year, and 69.2 mb, or 14.4%, below the latest five-year average. The stock draw came on the back of higher crude exports.

Total product stocks in March stood at 731.5 mb. This is 68.4 mb, or 8.5%, below March 2021 levels, and 68.2 mb, or 8.5%, lower than the latest five-year average. The stock draw was mainly driven by higher US consumption.

Graph 9 - 2: US weekly commercial crude oil inventories



Sources: EIA and OPEC.

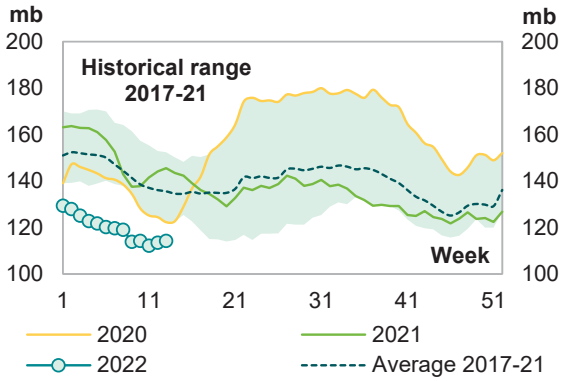
Gasoline stocks in March fell m-o-m by 9.2 mb to settle at 236.8.0 mb. This is 0.9 mb, or 0.4%, lower than in the same month in 2021, and 6.3 mb, or 2.6%, lower than the latest five-year average. The monthly stock draw came mainly on the back of higher gasoline consumption.

Distillate stocks fell m-o-m in March by 4.8 mb to stand at 114.3 mb. This is 31.2 mb, or 21.4%, lower than the same month of the previous year, and 23.1 mb, or 16.8%, below the latest five-year average.

Jet fuel stocks fell m-o-m by 2.8 mb, ending March at 35.4 mb. This is 3.6 mb, or 9.2%, lower than the same month of 2021, and 5.3 mb, or 12.9 %, below the latest five-year average.

By contrast, **residual fuel oil stocks** rose by 2.4 mb m-o-m in March. At 28.8 mb, this was 2.1 mb, or 6.8 %, lower than a year earlier, and 4.7 mb, or 14.0 %, below the latest five-year average.

Graph 9 - 3: US weekly distillate inventories



Sources: EIA and OPEC.

Table 9 - 2: US commercial petroleum stocks, mb

US stocks	Mar 21	Jan 22	Feb 22	Mar 22	Change Mar 22/Feb 22
Crude oil	**501.9**	**414.3**	**413.4**	**412.4**	***-1.1***
Gasoline	237.6	251.8	246.0	236.8	*-9.2*
Distillate fuel	145.5	125.0	119.1	114.3	*-4.8*
Residual fuel oil	30.9	26.7	26.4	28.8	*2.4*
Jet fuel	39.0	38.6	38.2	35.4	*-2.8*
Total products	**799.8**	**775.7**	**741.8**	**731.5**	***-10.3***
Total	**1,301.7**	**1,190.0**	**1,155.2**	**1,143.8**	***-11.4***
SPR	**637.8**	**588.3**	**580.0**	**564.6**	***-15.4***

Sources: EIA and OPEC.

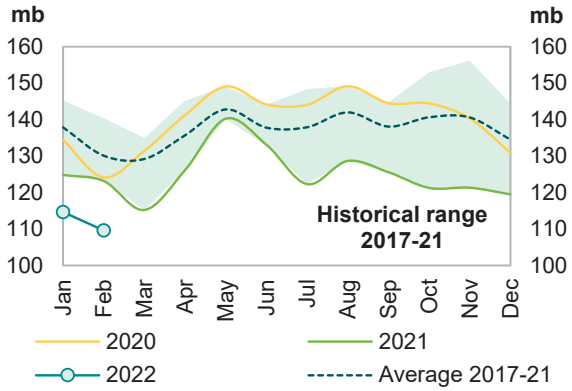
Japan

In **Japan**, **total commercial oil stocks** in February fell m-o-m by 5.0 mb to settle at 109.6 mb. This is 13.5 mb, or 11.0%, lower than the same month in 2021, and 20.5 mb, or 15.7%, below the latest five-year average. Crude stocks rose by 0.1 mb, while product stocks fell by 5.0 mb.

Japanese **commercial crude oil stocks** rose slightly in February to stand at 56.0 mb. This is 7.3 mb, or 11.5%, below the same month of the previous year, and 18.1 mb, or 24.4%, lower than the latest five-year average. The build came on the back of higher crude imports.

By contrast, Japan's **total product inventories** fell m-o-m by 5.0 mb to end February at 53.6 mb. This is 6.2 mb, or 10.4%, lower than the same month in 2021, and 2.4 mb, or 4.2%, below the latest five-year average.

Graph 9 - 4: Japan's commercial oil stocks



Sources: METI and OPEC.

Gasoline stocks fell m-o-m by 0.4 mb to stand at 11.1 mb. This was 2.0 mb, or 15.6%, lower than a year earlier, and 0.2 mb, or 1.7%, lower than the latest five-year average. Lower production, which fell by 10.6%, was behind the gasoline stock draw.

Distillate stocks also fell m-o-m by 3.9 mb to end February at 22.4 mb. This is 3.4 mb, or 13.0%, lower than the same month in 2021, and 1.2 mb, or 5.0%, below the latest five-year average. Within the distillate components, **jet fuel, kerosene and gasoil stocks** fell m-o-m by 11.2%, 14.4% and 5.0% respectively.

Total residual fuel oil stocks fell m-o-m by 0.7 mb to end February at 11.2 mb. This is 0.6 mb, or 5.3%, lower than in the same month of the previous year, and 1.2 mb, or 9.7%, below the latest five-year average. Within the components, fuel oil A and fuel oil B.C stocks fell by 4.0% and 6.9%, respectively.

Table 9 - 3: Japan's commercial oil stocks*, mb

Japan's stocks	Feb 21	Dec 21	Jan 22	Feb 22	Change Feb 22/Jan 22
Crude oil	**63.3**	**60.3**	**55.9**	**56.0**	***0.1***
Gasoline	13.1	10.5	11.4	11.1	*-0.4*
Naphtha	9.2	8.1	9.1	9.0	*-0.1*
Middle distillates	25.7	28.3	26.3	22.4	*-3.9*
Residual fuel oil	11.9	12.4	11.9	11.2	*-0.7*
Total products	**59.9**	**59.2**	**58.7**	**53.6**	***-5.0***
Total**	**123.2**	**119.5**	**114.6**	**109.6**	***-5.0***

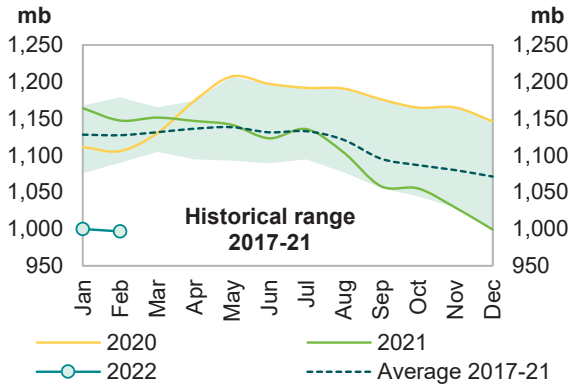
*Note: * At the end of the month. ** Includes crude oil and main products only.*
Sources: METI and OPEC.

EU-14 plus UK and Norway

Preliminary data for February showed that **total European commercial oil stocks** fell m-o-m by 3.3 mb to stand at 996.7 mb. At this level, they were 150.8 mb, or 13.1%, below the same month a year earlier, and 130.8 mb, or 11.6%, lower than the latest five-year average. Crude stocks rose by 1.5 mb, while product stocks fell m-o-m by 4.8 mb.

European **crude inventories** rose in February to stand at 419.2 mb. This is 47.2 mb, or 10.1% lower than the same month in 2021, and 56.5 mb, or 11.9%, below the latest five-year average. The build in crude oil inventories came on the back of lower m-o-m refinery throughputs in the EU-14, plus UK and Norway.

Graph 9 - 5: EU-14 plus UK and Norway's total oil stocks



Sources: Argus, Euroilstock and OPEC.

By contrast, **total European product stocks** fell m-o-m by 4.8 mb to end February at 577.5 mb. This is 103.7 mb, or 15.2%, lower than the same month of the previous year, and 74.3 mb, or 11.4%, below the latest five-year average.

Gasoline stocks declined m-o-m by 4.8 mb in February to stand at 108.5 mb. At this level, they were 15.2 mb, or 12.3%, lower than the same time a year earlier, and 16.0 mb/d, or 12.9%, less than the latest five-year average.

Residual fuel stocks also fell m-o-m by 1.8 mb in February to stand at 58.4 mb. This is 6.7 mb, or 10.3%, lower than the same month in 2021, and 9.2 mb, or 13.6%, below the latest five-year average.

In contrast, **distillate stocks** rose m-o-m by 1.4 mb in February to stand at 386.1 mb. This is 74.6 mb, or 16.2%, below the same month in 2021, and 43.7 mb, or 10.2%, less than the latest five-year average.

Naphtha stocks also rose slightly by 0.4 mb in February, ending the month at 24.5 mb. This is 7.1 mb, or 122.6%, below February 2021 levels, and 5.4 mb, or 18.0%, below the latest five-year average.

Table 9 - 4: EU-14 plus UK and Norway's total oil stocks, mb

EU stocks	Feb 21	Dec 21	Jan 22	Feb 22	Change Feb 22/Jan 22
Crude oil	**466.4**	**417.9**	**417.7**	**419.2**	***1.5***
Gasoline	123.7	105.7	113.2	108.5	*-4.8*
Naphtha	31.6	24.2	24.1	24.5	*0.4*
Middle distillates	460.7	391.4	384.7	386.1	*1.4*
Fuel oils	65.2	60.1	60.3	58.4	*-1.8*
Total products	**681.1**	**581.4**	**582.3**	**577.5**	***-4.8***
Total	**1,147.5**	**999.4**	**1,000.0**	**996.7**	***-3.3***

Sources: Argus, Euroilstock and OPEC.

Singapore, Amsterdam-Rotterdam-Antwerp (ARA) and Fujairah

Singapore

In February, **total product stocks in Singapore** fell m-o-m by 3.7 mb to 43.3 mb. This is 8.6 mb, or 16.5%, lower than the same month in 2021.

Light distillate stocks fell m-o-m by 1.7 mb in February to stand at 14.0 mb. This is 1.7 mb, or 11.1%, lower than the same month of the previous year.

Middle distillate stocks also fell m-o-m by 0.5 mb in January to stand at 7.7 mb. This is 7.2 mb, or 48.3%, lower than a year earlier.

Residual fuel oil stocks fell m-o-m by 1.5 mb, ending February at 21.6 mb. This is 0.4 mb, or 1.7%, lower than in February 2021.

ARA

Total product stocks in ARA fell m-o-m in February by 0.8 mb reversing the build of last month. At 37.7 mb, they are 14 mb, or 27.2%, lower than the same month in 2021.

Gasoline stocks in February fell m-o-m by 0.3 mb to stand at 10.2 mb, which is 0.8 mb, or 7.4%, lower than the same month of the previous year.

Fuel oil stocks also fell m-o-m by 1.1 mb in February to stand at 6.6 mb, which is 4.1 mb, or 38.1%, lower than in February 2021.

By contrast, gasoil stocks rose by 0.2 mb to end February at 12.2 mb. This is 7.0 mb, or 36.6%, lower than the level seen in February 2021.

Jet oil stocks also rose m-o-m by 0.1 mb to end February at 6.7 mb. This is 1.0 mb, or 13.2%, below the level registered one year earlier.

Fujairah

During the week ending 28 March 2022, **total oil product stocks in Fujairah** fell w-o-w by 0.3 mb to stand at 17.89 mb, according to data from Fed Com and S&P Global Platts. At this level, total oil stocks were 1.39 mb lower than the same time a year ago.

Light distillate stocks fell by 0.36 mb w-o-w to stand at 5.92 mb in the week to 28 March 2022, which is 1.61 mb lower than the same period a year ago. **By contrast, heavy distillate stocks** rose by 0.06 mb to stand at 10.19 mb, which is 1.95 mb higher than a year ago. **Middle distillate stocks** remain unchanged w-o-w to stand at 1.79 mb, which is 1.74 mb lower than the same time last year.

Table 11 - 1: World oil demand and supply balance, mb/d

World oil demand and supply balance	2018	2019	2020	1Q21	2Q21	3Q21	4Q21	2021	1Q22	2Q22	3Q22	4Q22	2022
World demand													
Americas	25.41	25.53	22.56	22.82	24.38	24.83	25.01	24.27	24.38	25.43	25.82	25.78	25.36
of which US	*20.60*	*20.58*	*18.35*	*18.60*	*20.17*	*20.35*	*20.56*	*19.93*	*19.70*	*21.01*	*21.30*	*21.26*	*20.82*
Europe	14.31	14.31	12.43	11.91	12.64	13.85	13.88	13.08	12.83	13.17	14.40	14.24	13.66
Asia Pacific	8.01	7.93	7.14	7.67	7.04	7.11	7.82	7.41	7.96	7.22	7.25	7.93	7.59
Total OECD	**47.73**	**47.78**	**42.13**	**42.40**	**44.05**	**45.79**	**46.70**	**44.75**	**45.16**	**45.82**	**47.47**	**47.95**	**46.61**
China	13.16	13.71	13.56	13.85	14.61	14.57	15.21	14.56	14.34	15.10	15.06	15.65	15.04
India	4.93	4.99	4.51	4.94	4.50	4.59	5.02	4.76	5.28	4.82	4.97	5.35	5.10
Other Asia	8.91	9.06	8.13	8.56	8.98	8.34	8.62	8.63	9.20	9.59	8.93	8.95	9.16
Latin America	6.53	6.59	6.01	6.25	6.16	6.46	6.34	6.30	6.43	6.33	6.61	6.50	6.47
Middle East	8.13	8.20	7.55	7.95	7.77	8.24	7.97	7.98	8.28	8.01	8.49	8.20	8.25
Africa	4.33	4.35	4.08	4.37	4.08	4.15	4.43	4.26	4.52	4.21	4.27	4.56	4.39
Russia	3.55	3.57	3.39	3.65	3.42	3.63	3.76	3.61	3.70	3.33	3.50	3.59	3.53
Other Eurasia	1.21	1.19	1.07	1.23	1.24	1.09	1.28	1.21	1.24	1.19	1.04	1.28	1.19
Other Europe	0.74	0.76	0.70	0.78	0.72	0.73	0.79	0.75	0.80	0.71	0.73	0.80	0.76
Total Non-OECD	**51.48**	**52.43**	**49.00**	**51.58**	**51.48**	**51.80**	**53.42**	**52.07**	**53.79**	**53.29**	**53.60**	**54.86**	**53.89**
(a) Total world demand	**99.21**	**100.21**	**91.13**	**93.98**	**95.53**	**97.59**	**100.12**	**96.82**	**98.95**	**99.12**	**101.06**	**102.81**	**100.50**
Y-o-y change	***1.34***	***1.00***	***-9.09***	***-0.70***	***11.74***	***6.02***	***5.70***	***5.70***	***4.97***	***3.58***	***3.48***	***2.68***	***3.67***
Non-OPEC liquids production													
Americas	24.03	25.81	24.70	24.10	25.17	25.20	26.13	25.15	25.92	26.30	26.95	27.32	26.63
of which US	*16.66*	*18.47*	*17.61*	*16.63*	*17.93*	*17.85*	*18.58*	*17.75*	*18.42*	*18.95*	*19.23*	*19.54*	*19.04*
Europe	3.84	3.70	3.89	3.95	3.51	3.81	3.78	3.76	3.77	3.74	3.80	4.12	3.86
Asia Pacific	0.41	0.52	0.52	0.50	0.45	0.53	0.51	0.50	0.50	0.54	0.53	0.53	0.52
Total OECD	**28.27**	**30.03**	**29.11**	**28.55**	**29.13**	**29.53**	**30.42**	**29.41**	**30.19**	**30.58**	**31.28**	**31.97**	**31.01**
China	3.98	4.05	4.15	4.30	4.34	4.33	4.26	4.31	4.45	4.31	4.35	4.43	4.38
India	0.86	0.82	0.78	0.78	0.77	0.77	0.77	0.77	0.77	0.78	0.80	0.83	0.79
Other Asia	2.76	2.72	2.51	2.51	2.45	2.33	2.35	2.41	2.41	2.39	2.37	2.36	2.38
Latin America	5.79	6.08	6.03	5.94	5.97	6.09	5.83	5.96	6.15	6.21	6.17	6.40	6.23
Middle East	3.19	3.19	3.19	3.22	3.23	3.24	3.27	3.24	3.30	3.35	3.37	3.37	3.35
Africa	1.49	1.51	1.41	1.37	1.35	1.32	1.32	1.34	1.31	1.27	1.25	1.23	1.27
Russia	11.52	11.61	10.59	10.47	10.74	10.81	11.17	10.80	11.33	11.23	11.16	11.20	11.23
Other Eurasia	3.08	3.07	2.92	2.96	2.89	2.79	3.08	2.93	3.05	3.03	3.17	3.22	3.12
Other Europe	0.12	0.12	0.12	0.12	0.11	0.11	0.11	0.11	0.11	0.11	0.10	0.10	0.10
Total Non-OECD	**32.80**	**33.18**	**31.71**	**31.66**	**31.86**	**31.79**	**32.17**	**31.87**	**32.88**	**32.68**	**32.75**	**33.13**	**32.86**
Total Non-OPEC production	61.07	63.22	60.82	60.22	60.98	61.32	62.59	61.28	63.08	63.26	64.03	65.10	63.87
Processing gains	2.34	2.36	2.15	2.28	2.28	2.28	2.28	2.28	2.39	2.39	2.39	2.39	2.39
Total Non-OPEC liquids production	**63.41**	**65.58**	**62.97**	**62.50**	**63.26**	**63.60**	**64.87**	**63.56**	**65.47**	**65.65**	**66.42**	**67.50**	**66.26**
OPEC NGL + non-conventional oils	5.29	5.21	5.05	5.10	5.12	5.17	5.18	5.14	5.23	5.26	5.29	5.31	5.27
(b) Total non-OPEC liquids production and OPEC NGLs	**68.70**	**70.79**	**68.02**	**67.60**	**68.39**	**68.77**	**70.05**	**68.71**	**70.70**	**70.91**	**71.71**	**72.81**	**71.54**
Y-o-y change	***3.08***	***2.09***	***-2.78***	***-4.55***	***2.19***	***2.20***	***2.87***	***0.69***	***3.10***	***2.52***	***2.93***	***2.76***	***2.83***
OPEC crude oil production (secondary sources)	31.34	29.37	25.72	25.19	25.57	26.93	27.71	26.36	28.37				
Total liquids production	100.05	100.16	93.74	92.78	93.95	95.70	97.76	95.06	99.08				
Balance (stock change and miscellaneous)	0.83	-0.05	2.61	-1.20	-1.58	-1.89	-2.36	-1.76	0.12				
OECD closing stock levels, *mb*													
Commercial	2,873	2,894	3,038	2,919	2,874	2,755	2,643	2,643					
SPR	1,552	1,535	1,541	1,546	1,524	1,513	1,484	1,484					
Total	**4,425**	**4,429**	**4,579**	**4,464**	**4,398**	**4,268**	**4,127**	**4,127**					
Oil-on-water	1,058	1,033	1,148	1,138	1,131	1,169	1,202	1,202					
Days of forward consumption in OECD, *days*													
Commercial onland stocks	60	69	68	66	63	59	59	57					
SPR	32	36	34	35	33	32	33	32					
Total	**93**	**105**	**102**	**101**	**96**	**91**	**91**	**89**					
Memo items													
(a) - (b)	**30.51**	**29.42**	**23.11**	**26.38**	**27.15**	**28.81**	**30.07**	**28.12**	**28.25**	**28.21**	**29.36**	**30.00**	**28.96**

Note: Totals may not add up due to independent rounding.
Source: OPEC.

https://www.iea.org/reports/oil-market-report-april-2022?mode=overview

Oil Market Report - April 2022

Report extract

Overview

- 99.4.

- Global oil supply rose in March by 450 kb/d to 99.1 mb/d, led by non-OPEC+. Russian oil supply is expected to fall by 1.5 mb/d in April, with shut-ins projected to accelerate to around 3 mb/d from May. Despite the disruption to Russian oil supplies, lower demand expectations, steady output increases from OPEC+ members along with the US and other non OPEC+ countries, and massive stock releases from IEA member countries should prevent a sharp deficit from developing.

- Global refinery throughputs are forecast to increase by 4.4 mb/d from April to August due to new capacity and normal seasonal gains. This would allow product inventories to see the first build in two years, offering some respite to the tight market. Overall, 2022 runs are forecast to gain 3 mb/d y-o-y, but will remain below 2017 levels.

- Global oil inventories have decreased for 14 consecutive months, with February stocks 714 mb below the end-2020 level and OECD countries accounting for 70% of the decline. OECD total industry stocks fell by 42.2 mb to 2 611 mb in February, nearly double the seasonal trend. Preliminary data show a build in OECD industry stocks of 8.8 mb for March.

- Futures prices for ICE Brent were trading at around $104/bbl as this Report went to print, down nearly $10/bbl following IEA collective stock release actions and a massive US release from the strategic petroleum reserve. Benchmark crude prices are now back to near pre-invasion levels but remain troublingly high and are a serious threat for the global economic outlook.

Highlights

Oil markets struggling to navigate supply losses and dislocations stemming from Russia's invasion of Ukraine received much needed support from US and IEA coordinated stock releases. IEA member countries agreed on 1 April to tap their emergency reserves for the second time in the space of a month, this time to the tune of 120 mb. The record volumes will provide welcome relief to an already tight oil market that's facing heightened uncertainty amid the multitude of repercussions stemming from sanctions and embargoes targeted at Russia by the international community and consumer boycotts. Crude prices have eased by nearly $10/bbl following announcements of the US and IEA stock releases, with ICE Brent last trading at around $104/bbl.

Insisting that no supply shortage exists, OPEC+ countries agreed on 31 March to stick with a modest monthly output increment for May. In March, output from the alliance's 19 members with quotas was up by a mere 40 kb/d, far below the planned 400 kb/d increase, and 1.5 mb/d below their target. Output from non-OPEC+ producers, most notably the US, also fell short of expectations at the start of the year. Non-OPEC+ output is now seen growing by 2 mb/d in 2022, 100 kb/d lower than in last month's Report. From this month, our OPEC+ supply estimates will be published on our website.

Russian oil supply and exports continue to fall. So far in April, roughly 700 kb/d of production has reportedly been shut in. We assume these losses will grow to an average 1.5 mb/d for the month as Russian refiners extend run cuts, more buyers shun barrels and Russian storage fills up. From May onwards, close to 3 mb/d of Russian production could be offline due to international sanctions and as the impact of a widening customer-driven embargo comes into full force.

While some buyers, most notably in Asia, increased purchases of sharply discounted Russian barrels, traditional customers are cutting back. For now, there are no signs of increased volumes going to China, where refiners have cut runs as a recent surge in Covid cases and new restrictions have dented oil demand.

The stringent lockdowns in China have led us to further revise down our estimate for oil demand in 2Q22 and for the year as a whole. In addition, more complete demand data for 1Q22, especially in the US, was sharply lower than preliminary estimates. As a result, global oil demand has been reduced by 260 kb/d for 2022 and is now forecast to average 99.4 mb/d, up by 1.9 mb/d from 2021.

Lower demand expectations and steady output increases from Middle East OPEC+ members along with the US and other countries outside the OPEC+ alliance should bring the market back to balance. But the outlook is mired in uncertainty and OECD industry stocks in February continued to draw at a steep pace to stand 320 mb below their five-year average. The IEA's latest stock release thus provides a crucial buffer to oil markets and much needed relief to consuming countries.

OPEC+ crude oil production[1]
million barrels per day

	Feb 2022 supply	Mar 2022 supply	March compliance	Mar 2022 target	Sustainable capacity[2]	Spare cap vs. Mar
Algeria	0.98	1.00	0.88	0.99	0.99	0.00
Angola	1.16	1.14	4.17	1.44	1.19	0.05
Congo	0.26	0.26	3.42	0.31	0.29	0.03
Equatorial Guinea	0.09	0.09	5.29	0.12	0.11	0.02
Gabon	0.19	0.20	-1.08	0.18	0.21	0.00
Iraq	4.27	4.29	1.28	4.37	4.82	0.53
Kuwait	2.61	2.64	0.99	2.64	2.79	0.15
Nigeria	1.27	1.25	5.22	1.72	1.54	0.29
Saudi Arabia	10.23	10.28	1.08	10.33	12.23	1.95
UAE	2.96	2.99	0.93	2.98	4.09	1.10
Total OPEC-10	**24.02**	**24.14**	**1.57**	**25.06**	**28.26**	**4.13**
Iran[3]	2.58	2.58	0.00	0.00	3.80	1.22
Libya[3]	1.16	1.10	0.00	0.00	1.20	0.10
Venezuela[3]	0.72	0.72	0.00	0.00	0.75	0.03
Total OPEC	**28.48**	**28.54**	**0.00**	**0.00**	**34.02**	**5.48**
Azerbaijan	0.57	0.58	3.21	0.68	0.60	0.02
Kazakhstan	1.65	1.60	1.06	1.61	1.69	0.09
Mexico[4]	1.63	1.64	0.00	1.75	1.69	0.05
Oman	0.82	0.83	1.02	0.83	0.87	0.04
Russia	10.05	10.00	1.49	10.33	10.23	0.23
Others[5]	0.90	0.90	3.18	1.04	0.93	0.04
Total Non-OPEC	**15.62**	**15.55**	**1.62**	**16.23**	**16.01**	**0.47**
OPEC+-19 in cut deal[4]	**38.00**	**38.05**	**1.59**	**39.54**	**42.58**	**4.55**
Total OPEC+	**44.10**	**44.09**	**0.00**	**0.00**	**50.03**	**5.96**

1. Excludes condensates. 2. Capacity levels can be reached with 90 days and sustained for extended period. 3. Iran, Libya, Venezuela exempt from cuts. 4. Mexico excluded from OPEC+ compliance. Only cut in May, June 2020. 5. Bahrain, Brunei, Malaysia, Sudan and South Sudan.

Source: IEA Oil Market Report April 2022

IEA World Oil Supply and Demand Forecasts: Summary (Table)
2022-04-13 08:00:00.2 GMT

By Joel Rinneby
(Bloomberg) -- Following is a summary of world oil supply and demand forecasts from the International Energy Agency in Paris:

	4Q 2022	3Q 2022	2Q 2022	1Q 2022	4Q 2021	3Q 2021	2Q 2021	1Q 2021	2022	2021
	Demand									
Total Demand	100.5	100.1	98.3	98.5	100.5	98.8	96.3	94.3	99.4	97.5
Total OECD	46.5	46.4	45.5	45.4	46.8	45.8	44.0	42.4	45.9	44.8
Americas	24.9	25.1	24.8	24.4	25.0	24.8	24.4	22.8	24.8	24.3
Europe	13.7	13.9	13.4	13.1	13.9	13.8	12.6	11.9	13.5	13.1
Asia Oceania	7.9	7.4	7.3	8.0	7.8	7.1	7.0	7.7	7.6	7.4
Non-OECD countries	54.0	53.7	52.8	53.1	53.8	53.0	52.2	51.9	53.4	52.7
FSU	4.5	4.5	4.3	4.6	5.0	4.9	4.7	4.6	4.5	4.8
Europe	0.8	0.8	0.7	0.7	0.8	0.7	0.7	0.7	0.7	0.7
China	16.0	16.0	15.4	15.4	15.7	15.7	15.7	15.0	15.7	15.5
Other Asia	13.9	13.3	13.8	13.9	13.6	12.6	12.9	13.5	13.7	13.1
Americas	6.1	6.2	6.0	5.9	6.1	6.2	5.9	5.8	6.1	6.0
Middle East	8.5	9.0	8.5	8.5	8.4	8.9	8.5	8.3	8.6	8.5
Africa	4.2	4.0	4.1	4.1	4.1	4.0	4.0	4.1	4.1	4.0
	Supply									
Total Supply	n/a	n/a	n/a	98.7	98.0	96.4	94.1	92.3	n/a	95.2
Non-OPEC	64.8	64.4	63.7	65.0	65.0	64.3	63.5	61.9	64.5	63.7
Total OECD	30.5	30.0	29.5	28.8	29.2	28.3	27.8	27.4	29.7	28.2
Americas	26.6	26.2	25.6	25.0	25.3	24.4	24.3	23.3	25.8	24.3
Europe	3.4	3.3	3.4	3.4	3.4	3.4	3.1	3.6	3.4	3.4
Asia Oceania	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Non-OECD	29.1	28.8	28.9	31.4	30.8	30.5	30.5	30.2	29.5	30.5
FSU	11.7	11.5	11.8	14.4	14.3	13.7	13.7	13.4	12.3	13.8
Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	4.1	4.2	4.2	4.2	4.0	4.1	4.1	4.1	4.2	4.1
Other Asia	2.7	2.7	2.8	2.8	2.8	2.8	2.9	3.0	2.8	2.9
Americas	5.8	5.8	5.5	5.4	5.2	5.4	5.3	5.3	5.6	5.3
Middle East	3.2	3.2	3.2	3.2	3.1	3.1	3.1	3.1	3.2	3.1
Africa	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Processing Gains	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.3	2.3
Total OPEC	n/a	n/a	n/a	33.7	32.9	32.0	30.6	30.4	n/a	31.5
Crude	n/a	n/a	n/a	28.4	27.8	26.9	25.5	25.3	n/a	26.4
Natural gas liquids NGLs	5.4	5.4	5.4	5.3	5.2	5.1	5.1	5.1	5.4	5.1
Call on OPEC crude and stock change *	30.2	30.3	29.2	28.3	30.3	29.3	27.7	27.3	29.5	28.7

NOTE: Figures are in million of barrels per day. (*) equals total demand minus non-OPEC supply and OPEC natural gas liquids.
IEA changed the way it measures OPEC supply, adopting the industry-standard approach of counting most of Venezuela's Orinoco heavy oil as "crude oil."
SOURCE: International Energy Agency

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IEA: March Crude Oil Production in OPEC Countries (Table)
2022-04-13 08:00:00.4 GMT

By Joel Rinneby
(Bloomberg) -- Following is a summary of oil production in OPEC countries from the International Energy Agency in Paris:

	March 2022	Feb. 2022	March MoM
Total OPEC	28.54	28.48	0.06
Total OPEC10	24.14	24.02	0.12
Algeria	1.00	0.98	0.02
Angola	1.14	1.16	-0.02
Congo	0.26	0.26	0.00
Equatorial Guinea	0.09	0.09	0.00
Gabon	0.20	0.19	0.01
Iraq	4.29	4.27	0.02
Kuwait	2.64	2.61	0.03
Nigeria	1.25	1.27	-0.02
Saudi Arabia	10.28	10.23	0.05
UAE	2.99	2.96	0.03
Iran	2.58	2.58	0.00
Libya	1.10	1.16	-0.06
Venezuela	0.72	0.72	0.00

NOTE: Figures are in million of barrels per day. Monthly level change calculated by Bloomberg. Production data excludes condensates.
OPEC10 excludes Iran, Libya and Venezuela.
SOURCE: International Energy Agency

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IEA REPORT WRAP: China Covid Hurting Oil Demand; Russia Shut Ins
2022-04-13 08:21:20.948 GMT

By Stephen Voss
(Bloomberg) -- Summary including stories from IEA's monthly
Oil Market Report on Wednesday:
* IEA cuts oil demand forecast as China reimposes lockdowns
** Global oil demand est. revised down for 2022 by 260k b/d
** Covid lockdowns reducing projected demand in China
** Global 2022 demand seen 99.4m b/d, up 1.9m b/d y/y
** Russian shut-in production to reach 3m b/d from May
** Balanced mkt seen but 'outlook is mired in uncertainty'
* Click here for summary of key IEA supply/demand forecasts
* OPEC output rose 60k b/d in March, led by Middle East: IEA
** See full table
* Compliance with pledged target cutbacks in March:

** OPEC-10 157%; non-OPEC 162%; combined OPEC+ 19 nations 159%
** Saudi Arabia 108%, Russia 149%
** Combined OPEC+ compliance rose from February's 137% as more countries reach maximum production and couldn't deliver planned March increases
* Russian oil output to be down by 3m b/d in May, IEA says
* IEA halves Russia April output drop est. as buyers emerge
* Loss of Russian supply keeps global fuel market tight
* China jet fuel demand seen falling amid Covid outbreak
* Reluctance to use public transport buoys oil demand: IEA
* TABLE: IEA's quarterly supply/demand forecasts
* NOTE: OPEC issued its own monthly report Tuesday, saying that Russia's invasion of Ukraine curtails both world oil demand and supply
* NOTE: At another quick meeting on March 31, the OPEC+ alliance continued its policy of gradual monthly supply increases, reviving output halted during the pandemic. It meets next on May 5

--With assistance from Rachel Graham, Grant Smith, Sherry Su, Joel Rinneby, Jack Wittels and Amanda Jordan.

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IEA Cuts Oil Demand Forecast as China Reimposes Lockdowns
2022-04-13 08:00:00.30 GMT

By Grant Smith
(Bloomberg) -- The International Energy Agency cut its forecast for global oil demand this year after China reimposed lockdowns to contain the spread of a resurgent coronavirus. With the weaker demand outlook and the massive release of emergency oil reserves by IEA members, the agency now sees global markets in balance for much of the year. Crude prices have already lost most of their gains since Russia's attack on Ukraine, to trade near $100 a barrel in New York on Wednesday. "Prices are now back to near pre-invasion levels, but remain troublingly high and are a serious threat for the global economic outlook," the IEA said in its monthly report. While the market looks balanced now, "the outlook is mired in uncertainty."
The Paris-based agency, which advises most major economies, lowered projections for world fuel consumption this year by 260,000 barrels a day, with a particularly steep reduction of

925,000 a day for China in April. Still, global demand remains on track to increase this year.

The IEA also dialed back estimates for the loss of Russian supplies from an international boycott over its military aggression. Production in April may be 1.5 million barrels a day lower than the prior month -- roughly half the drop that was previously expected. Those losses may still double in May, the IEA said.

READ: Top Oil Merchant Vitol Will Stop Trading Russian Crude

Oil surged well above $100 a barrel following Russia's attack on its neighbor. While prices have eased, they are still high enough to stoke inflationary pressures and exacerbate a cost-of-living crisis for millions of consumers. To counter this, IEA members announced last week that they will deploy 240 million barrels from emergency reserves, the biggest stockpile release in the agency's history.

China's Outbreak

World oil consumption will expand by 1.9 million barrels a day to average 99.4 million a day this year, according to the IEA. China's fierce "zero Covid" policy has diminished demand growth, as millions are locked down in their homes, imports drop and business activity slows in the world's second-biggest economy.

The IEA noted that Saudi Arabia and other members of the Organization of Petroleum Exporting Countries have refused to open the taps faster, partly from a belief that markets didn't face a genuine shortage, and partly to preserve the OPEC+ coalition they lead with Russia.

OPEC+ members managed to provide just 10% of the supply increase scheduled for March, according to the IEA. The 19 coalition members, which have been engaged in a pact to stabilize markets since the start of the pandemic, added a mere 40,000 barrels a day as diminished investment erodes production capacity across the group.

The clash over policy between OPEC+ and the IEA -- which has openly expressed disappointment with the cartel's inaction -- came to a head last month with OPEC abandoning the agency as one of its data sources.

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IEA World Oil Supply/Demand Key Forecasts
2022-04-13 08:00:00.5 GMT

By Joel Rinneby
(Bloomberg) -- World oil demand 2022 forecast was revised to 99.4m b/d from 99.6m b/d in Paris-based Intl Energy Agency's latest monthly report.
* 2021 world demand was unrevised at 97.5m b/d
* Demand change in 2022 est. 1.9% y/y or 1.9m b/d
* Non-OPEC supply 2022 was unrevised at 64.5m b/d
* Call on OPEC crude 2022 was revised to 29.5m b/d from 29.7m b/d
* Call on OPEC crude 2021 was revised to 28.7 m b/d from 28.6m b/d
** OPEC crude production in March rose by 60k b/d on the month to 28.54m b/d
* Detailed table: FIFW NSN RA9NM0GEZ1FK <GO>
* NOTE: Fcasts based off IEA's table providing one decimal point

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OPEC Crude Output Rose 60k B/D in March, Led by Middle East: IEA
2022-04-13 08:00:00.0 GMT

By Amanda Jordan
(Bloomberg) -- OPEC's March crude output increased by 60k b/d from a month earlier to 28.54m b/d, led by Middle East producers, the IEA said in its monthly report.
* Saudi Arabia pumped 10.28m b/d, up 50k b/d
* Production in the UAE rose to 2.99m b/d from 2.96m b/d
** Both Saudi Arabia and the UAE are raising supply broadly in line with their OPEC+ quotas
* Production in Iraq inched up 20k b/d to 4.29m b/d
* Output in Kuwait climbed 30k b/d to 2.64m b/d
* Iranian supply -- exempt from quotas -- was unchanged at 2.58m b/d, the highest level in almost 3 years
* Libya saw the largest decline in March, with output falling 60k b/d to 1.1m b/d after field shutdowns
* OPEC's compliance with the OPEC+ output-cuts deal was 157% over the month
* NOTE: On Tuesday, OPEC released its own production figures for March, estimating its 13 members added only 57k b/d -- about a fifth of the amount planned

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IEA Expects Russian Oil Output to Be Down by 3M B/D in May
2022-04-13 08:00:00.6 GMT

By Sherry Su
(Bloomberg) -- Russia's oil supply is expected to be 3m b/d lower in May compared to March, with crude, fuel oil and naphtha exports likely to decline further, the IEA said its monthly Oil Market Report.
* This month, the IEA sees Russian production down 1.5m b/d from March
* It remains to be seen if Asian buyers can absorb Russian crude and products rejected by Europe and banned in the U.S., U.K., Canada and Australia
* "Without a full re-allocation, Russia may have to shut in additional oil production with potential longer-term consequences for world supply"
* As boycotts and embargoes consolidate and storage fills up, crude oil exports face steeper declines in the coming weeks
* Exports of fuel oil and naphtha are also expected to see further losses in April but there is "no significant trend" showing a decline in gasoil exports to typical destinations now
** The biggest product export losses so far have been in fuel oil and feedstocks, which were down by 230k b/d and 280k b/d in March
** Russian naphtha exports fell by 160k b/d in March to 350k b/d from the average in January and February as large petrochemical companies in Europe and OECD Asia sharply reduced their offtake of Russian naphtha

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IEA Halves Russia's Oil Output Drop Estimate as Buyers Emerge
2022-04-13 08:00:09.703 GMT

By Bloomberg News
(Bloomberg) -- The International Energy Agency halved its estimate for a decline in Russian crude oil output for April as the nation has been able to find new customers even with global restrictions and self-sanctioning by traditional buyers.
The agency now forecasts Russian production will drop by 1.5 million barrels per day this month, down from an earlier projection of 3 million a day. Buyers in Asia have snapped up sharply discounted supplies from the country, the IEA said.
Sanctions against Russia for its invasion of Ukraine have forced companies from TotalEnergies SE to Shell Plc to pledge that they will curtail purchases of Russian oil. Vitol Group, the world's top independent oil trader, said Wednesday it intends to completely stop trading Russia-origin crude and products by the end of this year. The U.S. has also stopped buying the nation's oil and the U.K. is set to follow suit by year-end.
The restrictions have made Russian companies offer steep discounts on their oil, which has attracted customers in Asia. Seaborne shipments rebounded in early April, rising to almost 4 million barrels a day in the first full week of the month, the highest level seen so far this year, according to vessel-tracking data monitored by Bloomberg.
Still, the IEA expects steeper export cuts in the coming weeks, with Russia's output decline reaching the earlier projected 3 million barrel per day from May "as the full impact of a widening customer-driven voluntary embargo on Moscow comes into effect."
In the first six days of April, the country's output dropped the most in almost two years, reaching some 10.52 million barrels per day, according to Bloomberg calculations based on data from the Energy Ministry's CDU-TEK unit. That is a decline of some 500,000 barrels per day compared to the February production levels.

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Loss of Russian Supply Keeps Global Fuel Market Tight, IEA Says
2022-04-13 08:00:00.7 GMT

By Rachel Graham
(Bloomberg) -- Disruption of Russian exports, capacity constraints and low inventories indicate continued tightness in global product markets, the IEA said in its Oil Market Report.
* Still, the market could see the first restocking in two years in 3Q, partly as new refining capacity comes online in the Middle East and China
** That will help balance the market toward the end of the year
* The reduction in Russian product exports will deepen, with the drop in refinery runs in the country estimated at 1m b/d for 2022
** Russian crude throughput dropped by 570k b/d in March to the lowest since the start of the pandemic
** So far, refiners exporting mainly heavier products and secondary feedstocks from the Black Sea have borne the brunt of run cuts
** Refiners shipping products from the Baltic Sea will also likely be affected
* Global refinery throughput is forecast to increase by 4.4m b/d from April to August due to new capacity and normal seasonal gains
** Worldwide crude throughput forecast at 80.9m b/d this year vs 77.8m last year

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IEA Now Sees Drop in China Jet Fuel Demand Amid Covid Outbreak
2022-04-13 08:00:00.35 GMT

By Jack Wittels
(Bloomberg) -- Chinese demand for “jet kerosene” this year is projected to decline by 25k b/d year-on-year, versus previous expectations of 10k b/d of growth, the IEA said in its monthly Oil Market Report.
* That’s a y/y drop of 3.5%: IEA
* Outbreak of Covid cases in China, along with sanctions on Russia, have tempered rebound in global air traffic recently
** China’s domestic flights have fallen by more than 70% in recent weeks; international travel remains roughly 80% below pre-pandemic levels

** “Chinese air traffic is unlikely to fully recover by the end of 2022 under the current zero-Covid policy”
* Number of flights at Moscow’s busiest airport, Sheremetyevo, has dropped by half since beginning of war in Ukraine
** “Sanctions have closed several international routes and fears that aircraft may be seized in foreign countries have also stopped many leased planes from leaving Russia”
* North America traffic 11% below 2019 levels, vs 14% below last month
** Western Europe air traffic 18% lower vs 29% last month
* Global demand for jet fuel and kerosene seen at 6.112m b/d this year, up by 17.3% y/y
** That’s an increase on the previous month’s report, which only forecast a y/y rise of 15.9%

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IEA Sees Oil Demand Buoyed by Reluctance to Use Public Transport
2022-04-13 08:00:00.1 GMT

By Rachel Graham
(Bloomberg) -- Demand for gasoline and diesel have risen more quickly than expected as people have tended to shun public transport to avoid Covid, the IEA said in its monthly Oil Market Report.
* Better use of public transport could form part of 330k b/d drop in OECD fuel use outlined in a recent IEA study
* “The widespread preference for using private vehicles, along with the release of pent-up demand, is reflected in the relatively strong performance of gasoline across all three OECD regions, though higher retail gasoline prices in the U.S. has recently tempered gain”
* Click here to see Bloomberg’s Oil Demand Monitor

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https://www.timesofisrael.com/laser-based-air-defense-shoots-down-drones-rockets-in-first-series-of-trials/

In ‘game changer,’ Israeli laser-based air defense shoots down drones

Officials hail Iron Beam system after successful interceptions of guided and unguided projectiles; Gantz says all efforts being made for early deployment

By **EMANUEL FABIAN** 14 April 2022, 4:00 pm

The Defense Ministry revealed Thursday that a laser air defense system it is developing successfully shot down drones, rockets, mortars, and anti-tank missiles in a first series of tests last month.

According to the head of the ministry’s research and development team, Brig. Gen. (res.) Yaniv Rotem, the tests were conducted at “challenging” ranges and timings.

“The use of a laser is a ‘game changer’ and the technology is simple to operate and proves to be economically viable,” he said.

In a video released by the ministry, the laser-based system can be seen intercepting a rocket, a mortar, and a drone at an undisclosed location in southern Israel’s Negev desert, during March of this year.

The ministry has been testing the laser-based defense system for several years, shooting down a drone with it last year. The recent tests were the first to be successful against the other threats, including unguided projectiles and anti-tank guided missiles. (The latter was not shown in footage released by the ministry.)

Its research and development department initially planned to deploy the anti-missile system by 2024, but the military has pushed for an earlier deployment. Prime Minister Naftali Bennett announced in February that Israel would deploy the system within the year.

The ‘Iron Beam’ laser-based air defense system is seen during a test in southern Israel, March 2022. (Defense Ministry)

This was apparently driven by concerns that in a future conflict, the military would not have sufficient interceptor missiles for the Iron Dome and other air defense systems to shoot down incoming rockets, missiles, and drones.

“Every effort is being made to make the system operational as soon as possible and enable an efficient, inexpensive, and innovative protection umbrella,” Defense Minister Benny Gantz said Wednesday.

The ground-based laser system — dubbed Iron Beam — which is being developed with the Rafael weapons manufacturer, is not meant to replace the Iron Dome or Israel’s other air defense systems, but to supplement and complement them, shooting down smaller projectiles and leaving larger ones for the more robust missile-based batteries.

According to the ministry, Israel is among the first countries in the world to succeed in using powerful laser technology to develop a working air defense system and to demonstrate interceptions in operational scenarios.

Hundreds of millions of shekels have been allocated to the final development stages and trial phase, in which the system will be placed on the border with the Gaza Strip.

Defense Minister Benny Gantz (second from left) is shown a new laser-based air-defense system at a Rafael weapons manufacturer complex in Israel, on March 17, 2022. (Defense Ministry)

Since development began, the high-power laser has proven more powerful than the ministry's team initially aimed for, officials previously said, without detailing the exact number of kilowatts of electricity it operates on.

According to the Defense Ministry, as long as there is a constant source of energy for the laser, there is no risk of ever running out of ammunition.

The downside of a laser system is that it does not function well in times of low visibility, including heavy cloud cover or other inclement weather. For that reason, the ministry intends to also mount the system on an airplane, which would help get around this limitation by putting the system above the clouds, though that is still a few more years off, ministry officials have said.

"The successful series of tests proved the uniqueness of the system, intercepting a wide range of threats in a variety of scenarios," said Rafael Advanced Defense Systems director-general Yoav Har-Even.

"The cooperation between Rafael and the Defense Ministry [research team] has led to a technological breakthrough and the completion of a significant milestone, one that will allow us to reach initial operational capability in a short time," he added.

A target is intercepted by the ‘Iron Beam’ laser-based air defense system, over southern Israel, March 2022. (Defense Ministry)

The ministry said the system is an “effective, accurate, easy-to-operate tool that is significantly cheaper than any other existing means of protection,” against the threats Israel faces.

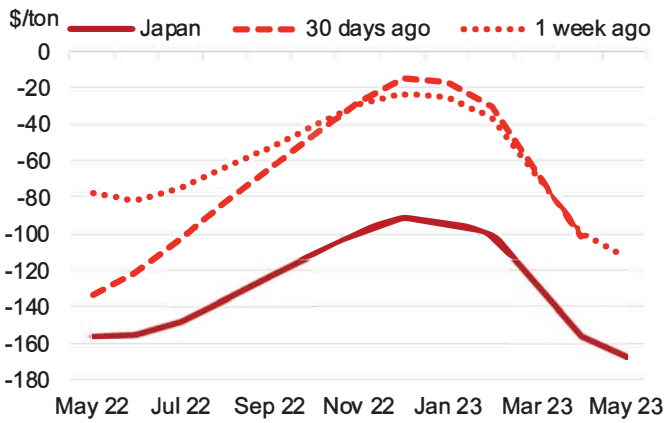
The Lebanese Hezbollah terror group is believed to maintain an arsenal of some 130,000 rockets, missiles, and mortar shells, which the military believes would be used against Israel in a future war.

The two largest terror groups in the Gaza Strip, Hamas and the Palestinian Islamic Jihad, are also each believed to possess thousands of rockets and mortar shells, even after firing upwards of 4,000 projectiles at Israel during last year’s 11-day war.

Israeli military officials have also said they have seen a growing trend in Iranian use of drone attacks in recent years, dubbing it Iran’s “UAV terror.”
Against these and other threats, Israel operates a multi-tiered air defense array, made up of the short-range Iron Dome, the medium-range David’s Sling, and the long-range Arrow and Patriot systems.

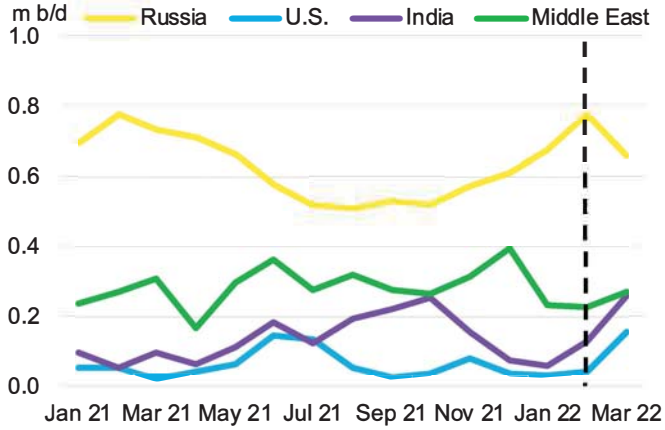
Executive summary

Propane-naphtha spread



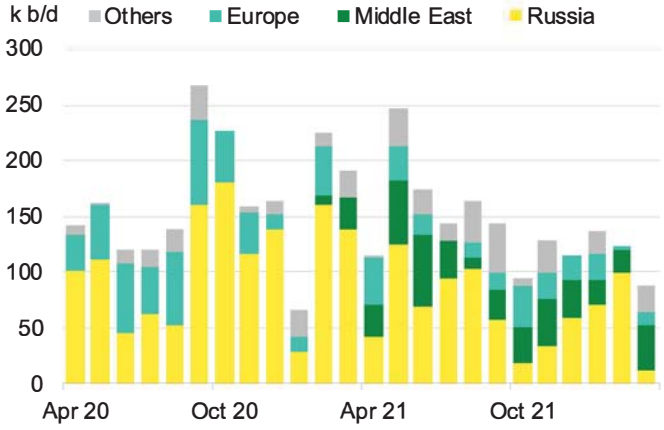
Source: BloombergNEF

Diesel exports to Europe



Source: BloombergNEF, Vortexa

U.S. fuel oil and VGO imports



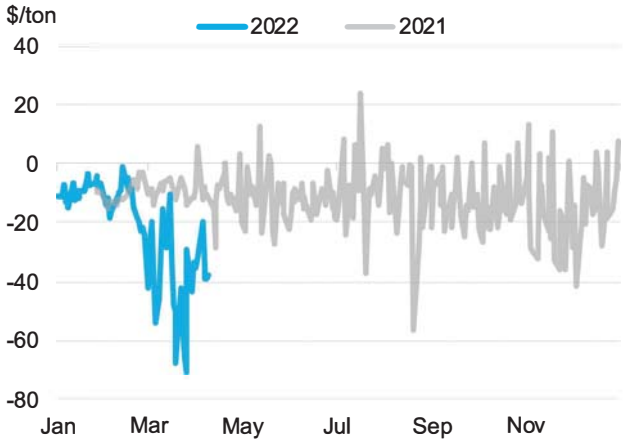
Source: BloombergNEF, Vortexa

- **Light ends:** Propane's discount to naphtha is at its highest level in the past seven years as European naphtha cracks hit their highest point since at least 2011, due to disruptions to Russian naphtha exports. Flexible petrochemical crackers will try to maximize propane intake in favor of costly naphtha, but the incremental switch could be limited due to weak petrochemical margins and additional run capacity limits. U.S Gulf Coast exports to Europe and Asia could rise to make up for disruptions in Russian naphtha exports. East Asian imports are expected to decline due to weak naphtha cracking margins and a closed arbitrage from the West to East.
- **Middle distillates:** European imports of diesel from the Gulf Coast rose in March to make up for disruptions in Russian supply. European diesel exports to the USAC fell to near zero in March. These flows are expected to dry up as the European diesel market is very tight due to its heavy reliance on Russian diesel. Rising Northwest Europe diesel premiums attracted more cargoes from the East. The Middle East and India have increased diesel exports to the Mediterranean region to replace Russian barrels.
- **Fuel oil:** USGC feedstock imports declined due to a reluctance to import Russian fuel oil and vacuum gasoil. Middle East and Japan are among key suppliers who are partially replacing Russian barrels. Russian heavy products will likely clear in Asia at a steep discount as the West prefers to avoid Russian fuel oil.

Diesel: USGC to Northwest Europe

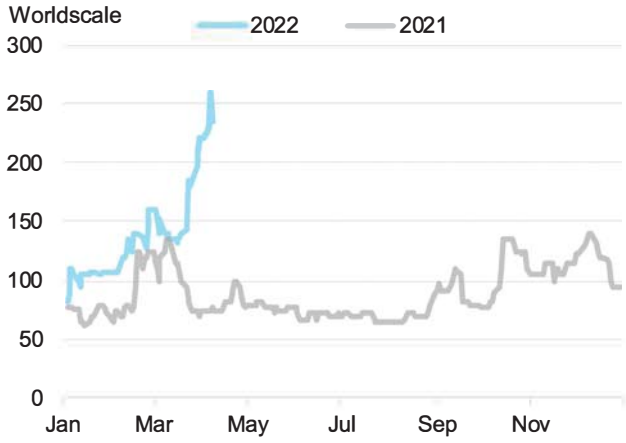
European imports of diesel and naphtha from the Gulf Coast rose in March to make up for disruptions in Russian supply. This has also boosted freight rates from the Gulf Coast to Northwest Europe.

USGC (ex RINs) - NWE spread



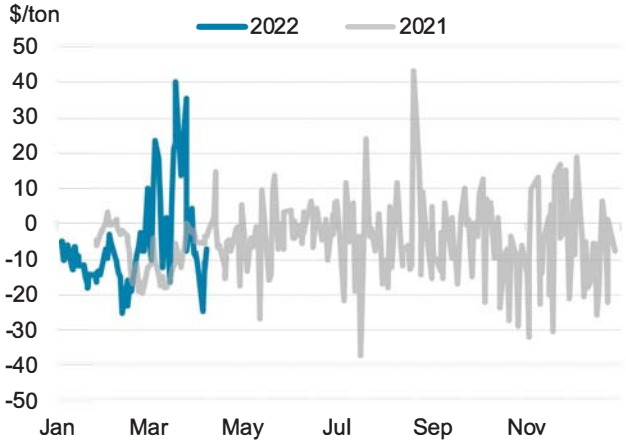
Source: BloombergNEF

USGC to NWE freight (38k tons)



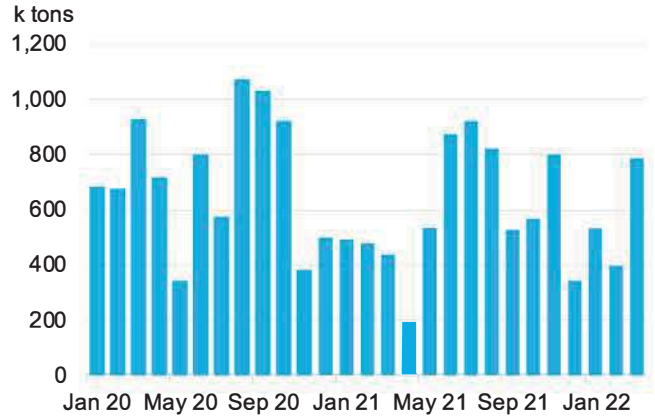
Source: BloombergNEF, SSY.

Arbitrage index



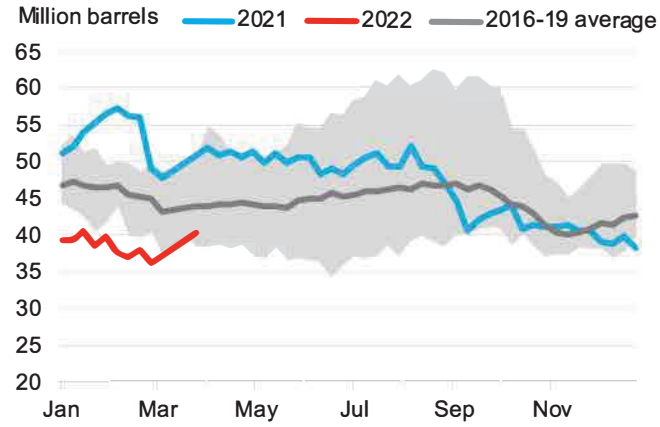
Source: BloombergNEF oil products arbitrage livesheet

Europe clean imports from U.S.



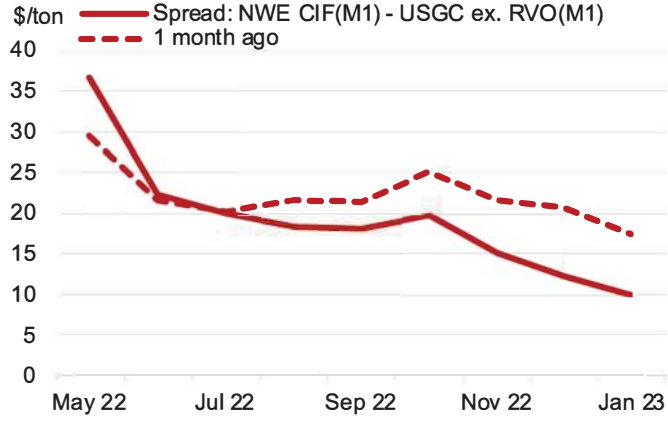
Source: Bloomberg News tracking estimates

USGC diesel inventories



Source: BloombergNEF, EIA

USGC to NWE forward arbs

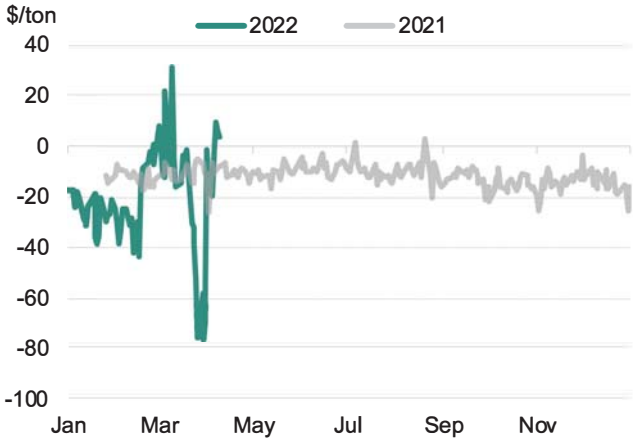


Source: BloombergNEF

Diesel: Northwest Europe to U.S.

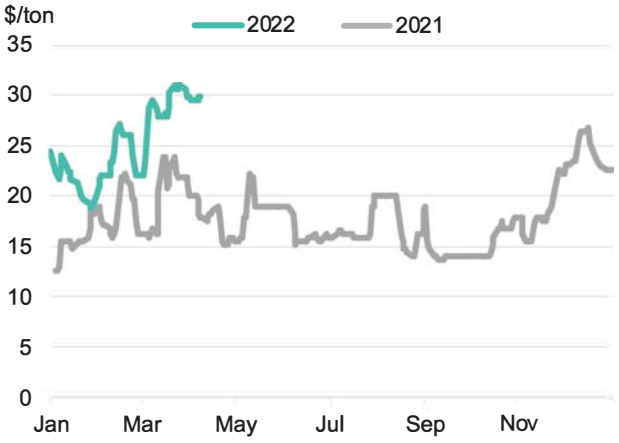
European diesel exports to the USAC fell to near zero in March. These flows are expected to dry up as the European diesel market is very tight due to its heavy reliance on Russian diesel.

NWE – USAC (ex RINs) spread



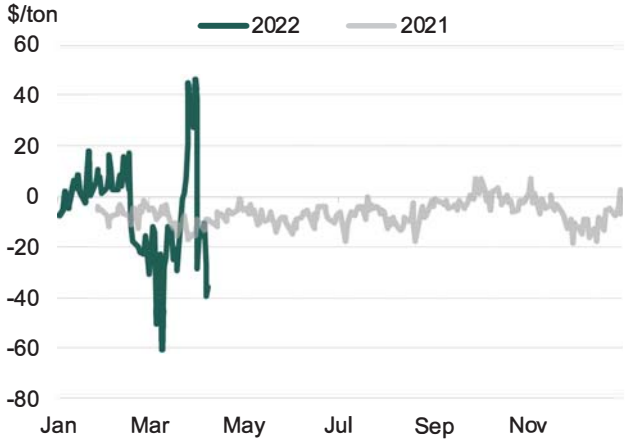
Source: BloombergNEF

NWE to USAC freight (37k tons)



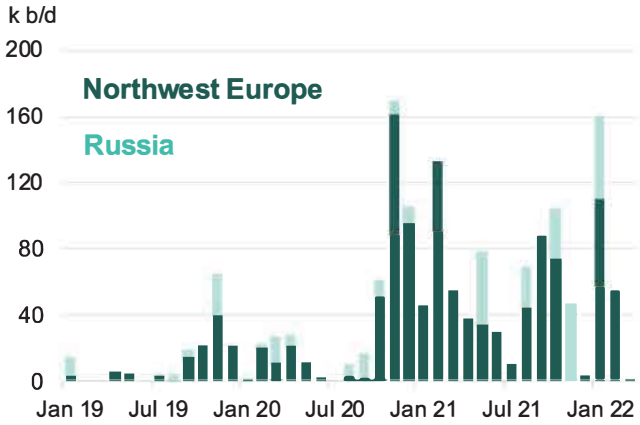
Source: BloombergNEF, SSY

Arbitrage index



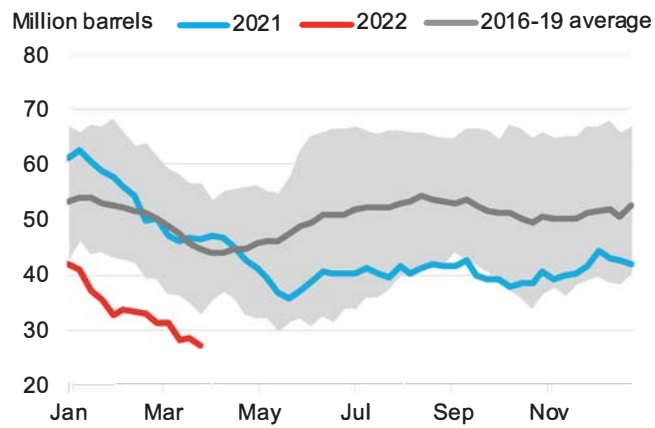
Source: BloombergNEF oil products arbitrage livesheet

Europe to U.S. diesel flows



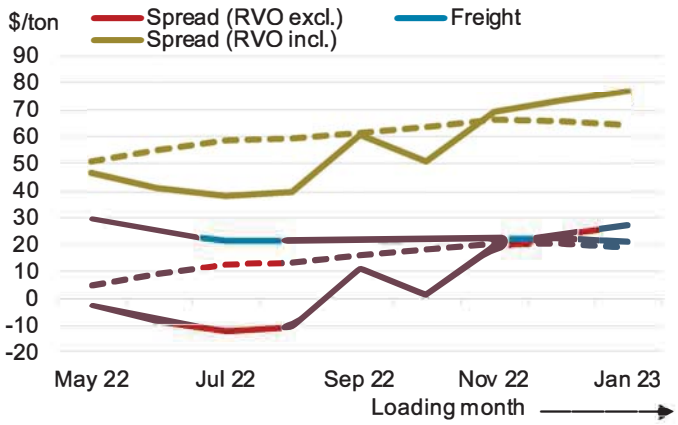
Source: BloombergNEF, Vortexa

USAC diesel inventories

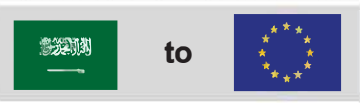


Source: BloombergNEF, EIA

NWE to USAC forward arbs



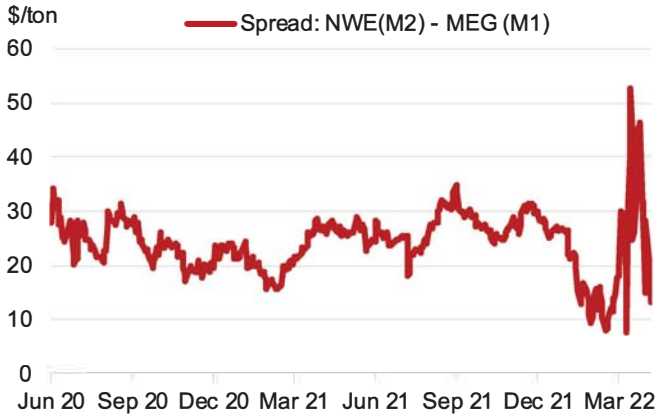
Source: BloombergNEF, Baltic Exchange



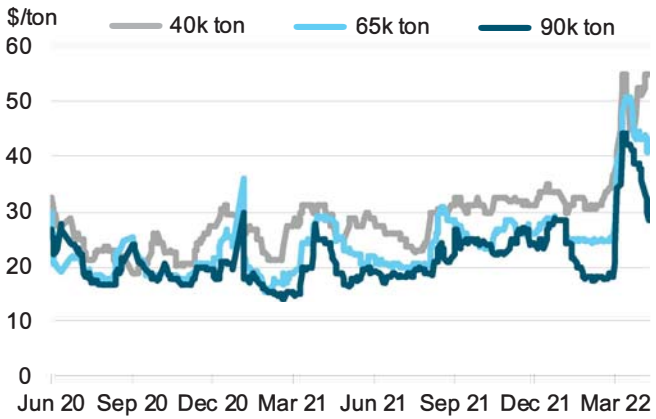
Diesel: Middle East to Northwest Europe

Rising Northwest Europe diesel premiums attracted more cargoes from the East. The Middle East and India have increased diesel exports to the Mediterranean region.

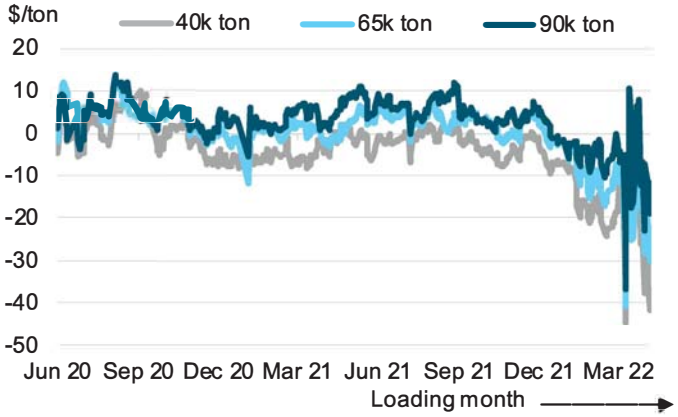
MEG - NWE diesel spread



MEG to NWE freight



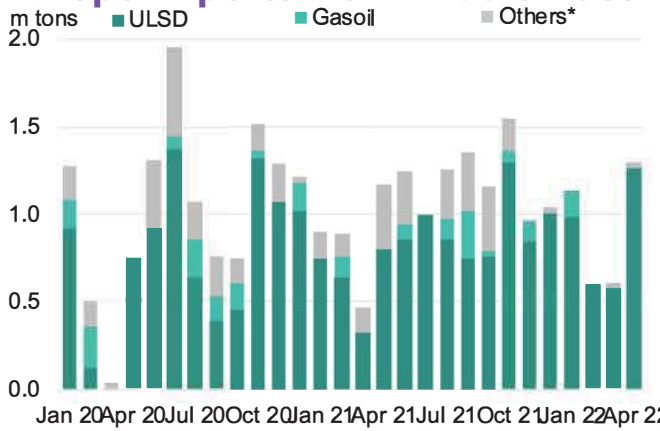
Arbitrage index



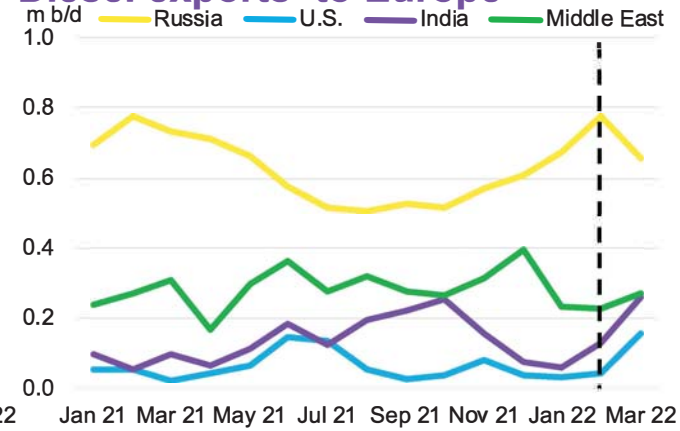
Source: BloombergNEF, SSY. Note: MEG indicative price is estimated through Singapore FOB netback calculation

Source: BloombergNEF oil products arbitrage livesheet

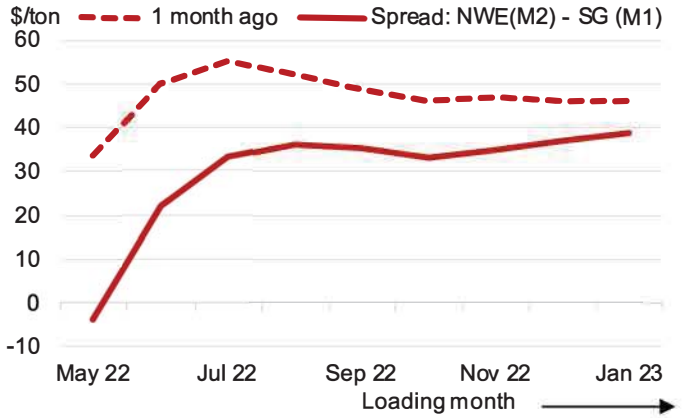
Europe imports from Middle East



Diesel exports to Europe



East-West gasoil spread



Source: Bloomberg News tracking estimates. Note: Others could be either diesel or jet fuel.

Source: BloombergNEF

BloombergNEF

Oil price outlook – Snapshot: April 11, 2022

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

Category	Indicator	Signal	Comment
Fundamentals	**Refinery margins**	↑	• Refinery margins were higher over the past week as oil product cracks strengthened.
	Crude stocks	↓	• In the week ending April 1, land crude-oil storage levels in BloombergNEF's tracked regions (U.S., ARA, Japan) grew by 1.0% to 530.5 million barrels (m bbl). The stockpile **deficit** against its five-year average (2015-19) **narrowed from 85.1m bbl to 81.5m bbl**. • Including global floating crude stockpiles from the same week, total crude oil inventories increased by 0.4% to 616.7m bbl, with the stockpile **deficit narrowing from 55.0m bbl to 49.9m bbl.**
	Product stocks	↔	• In the week ending April 1, gasoline and light distillate stockpiles in BNEF's tracked regions (U.S., ARA, Singapore, Japan and Fujairah) were down 2.3% week-on-week to 273.3m bbl, with the stockpile **deficit** against its three-year average (2017-19) **widening from 2.4m bbl to 5.4m bbl**. Gasoil and middle distillate stockpiles in BNEF's tracked regions fell by 0.3% to 141.6m bbl, with the stockpile **deficit** against its three-year average **narrowing from 39.1m bbl to 38.4m bbl**. • Total oil product stockpiles in tracked regions decreased by 0.4% to 874.0m bbl, with the stockpile **deficit** against its three-year seasonal average **widening from 74.6m bbl to 75.3m bbl**. Altogether, crude and product stockpiles fell slightly by 0.1% to 1,490.7m bbl, with the stockpile **deficit narrowing from 129.6m bbl to 125.2m bbl.**
	Demand indicators	↓	• Data for the week to April 5 are currently unavailable due to technical issues. In the week to March 29, global jet fuel demand from commercial passenger flights rose by 122,200 barrels per day (or 2.8%) week-on-week to 4.51 million barrels per day. • Global mobility indices were weaker over the past week. Apple's global driving activity index decreased by 0.3% in the week to April 9, driven by declines in Asia Pacific ex-China (-3.6%). Google's global mobility index was down 1.4% in the week to April 7, reflecting growth in Asia Pacific ex-China (-3.1%) and Europe (-2.5%). Road congestion in China's key 15 cities decreased by 3.7 percentage points to 93.2% of January 2021 levels in the week to April 6, according to BNEF's calculation based on Baidu data. • Daily average Covid-19 cases fell by 24% to 1.1 million in the week to April 9. Asia Pacific fell by 24% to 473,900 daily cases, with China surging by 164% to more than 20,000 daily cases. Europe was down 23% to 532,000 daily cases, while the Americas rose by 2% to 78,100 daily cases. • Weather forecasts showed that temperatures in key Asian cities are becoming warmer. Temperatures in European cities remained warm .
Financial	**Macro indicators**	↓	• The dollar index averaged at 99.8 over the past week, the highest level since May 2020, and was 1.1% higher than the week before. China Caixin Manufacturing PMI fell to 48.1 in March from 50.4 in February, the lowest level since February 2020.
	Hedge fund positioning	↓	• In the week to April 5, Managed Money net positioning in the oil complex decreased by 11.2m bbl (or 2.0%) week-on-week to 542.2m bbl, and fell to the 21st percentile of the past five years (versus the 23rd percentile last week).
	Options chains and volatility	↓	• There was a decline in open interest for Brent calls. Brent and WTI 1M volatility skews fell slightly over the past week.
Outlook	**Weekly call**	↓	• BNEF is bearish on oil prices for the week ahead, with Brent Jun-22 trading at $98.84/bbl and WTI May-22 trading at 94.14/bbl at the time of writing. Oil prices fell over the past week due to several factors. The U.S. dollar rallied to the highest level since May 2020 after U.S. Federal Reserve Governor Lael Brainard, which was known as one of the Fed's most dovish policymakers, mentioned that the Fed intends to significantly and rapidly reduce the Fed's nearly $9 trillion balance sheet, and is open to a 50-basis point interest rate hike. China's commitment to its zero-Covid strategy also continued to damage oil demand as daily cases in the country have more than doubled in the past week. China's Manufacturing PMI has fallen to the lowest level since February 2020. BNEF's tracking of China's road traffic activity revealed a sudden drop in congestion levels over the past week, and is month-to-date 6.7% lower than March 2022 levels, and at the lowest level since February 2021. Private refineries in China have seen their run rates drop below the five-year seasonal lows. Demand reduction due higher oil prices could also have started to take effect, as U.S. four-week average distillate fuel oil supplied fell below the five-year seasonal lows, while four-week average finished mogas supplied stood right at the five-year seasonal lows. The U.S. EIA revised down its domestic oil demand in January by almost 2m b/d (million barrels per day), from 21.67m b/d to 19.73m b/d.

Past outlooks

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

Date of report	Refinery margins	Crude stocks	Product stocks	Demand indicators	Commitment of traders	Options chain and volatility	BNEF week ahead call	Brent/WTI price at time of writing ($/bbl)	Web Link
April 11	↑	↓	↔	↓	↓	↓	↓	Brent-Jun: 98.84 WTI-May: 94.14	
April 4	↑	↑	↔	↑	↓	↓	↑	Brent-Jun: 104.71 WTI-May: 99.73	
March 28	↑	↔	↔	↔	↑	↓	↔	Brent-Jun: 109.53 WTI-May: 105.58	
March 21	↔	↔	↔	↓	↓	↔	↔	Brent-May: 112.35 WTI-May: 107.56	
March 14	↑	↑	↑	↔	↓	↓	↔	Brent-May: 108.66 WTI-Apr: 104.77	
February 28	↔	↔	↔	↑	↔	↔	↔	Brent-May: 99.00 WTI-Apr: 96.38	
February 21	↔	↔	↑	↑	↔	↔	↑	Brent-May: 91.50 WTI-Apr: 90.17	
February 14	↑	↔	↑	↑	↓	↔	↑	Brent-Apr: 93.75 WTI-Mar: 92.46	
February 7	↑	↑	↔	↑	↔	↔	↔	Brent-Apr: 92.83 WTI-Mar: 91.43	
January 31	↑	↔	↔	↑	↓	↔	↑	Brent-Apr: 89.17 WTI-Mar: 87.55	
January 24	↔	↑	↔	↔	↑	↓	↑	Brent-Mar: 87.19 WTI-Mar: 85.25	
January 17	↑	↑	↔	↔	↑	↑	↔	Brent-Mar: 85.78 WTI-Mar: 83.22	
January 10	↑	↓	↔	↓	↑	↑	↔	Brent-Mar: 81.71 WTI-Feb: 78.82	
January 3	↔	↔	↑	↓	↔	↔	↑	Brent-Mar: 78.84 WTI-Feb: 76.14	

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

BloombergNEF

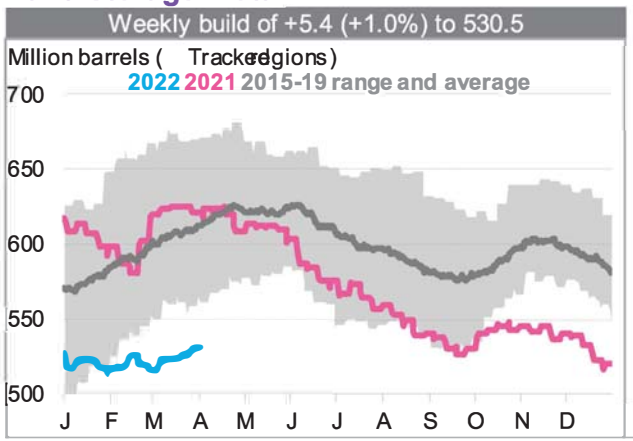
Crude stocks: Land

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

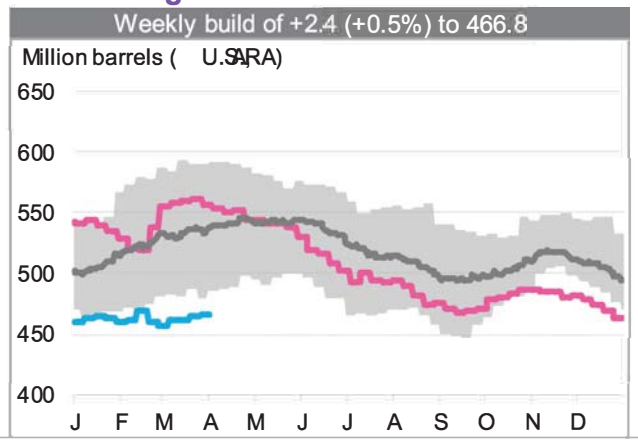
Bearish: Deficit narrowed from 85.1m bbl to 81.5m bbl against seasonal average

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

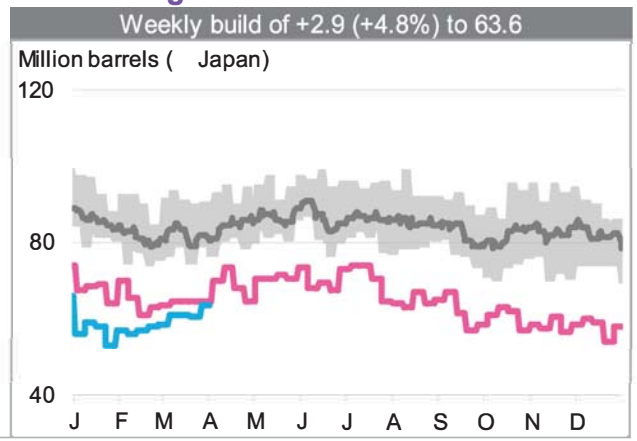
Land storage: Total



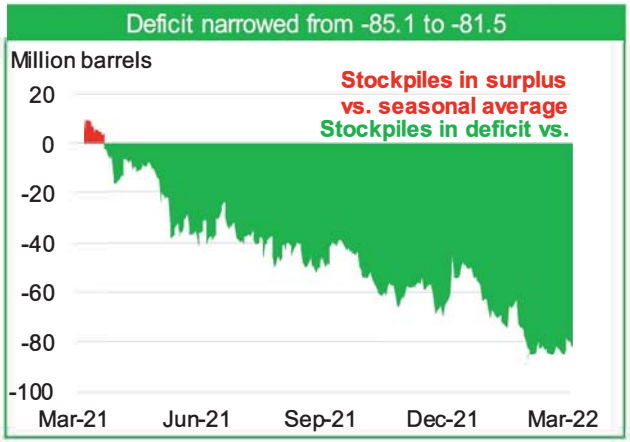
Land storage: West of Suez

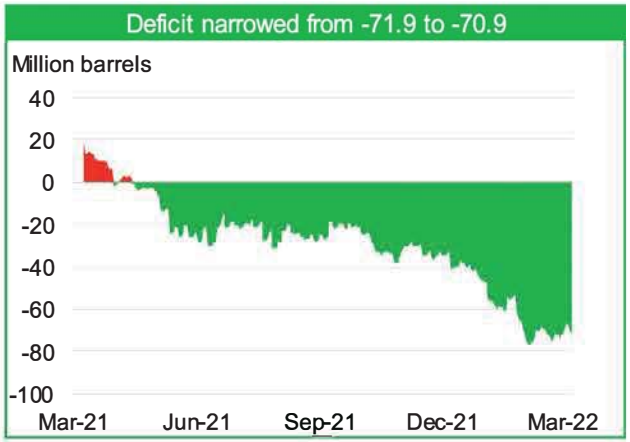


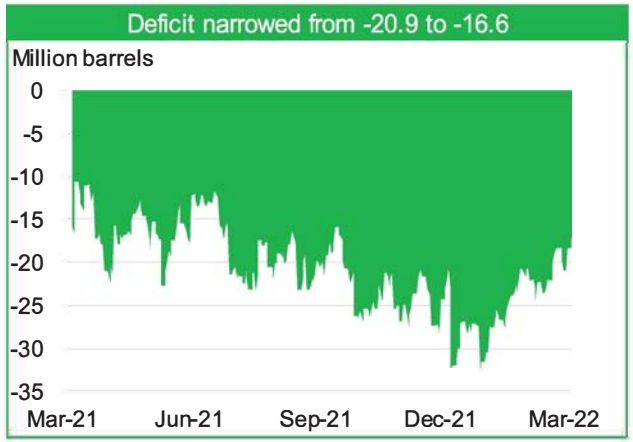
Land storage: East of Suez



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







*Source: BloombergNEF, U.S. EIA, Genscape, PAJ, SCIG. Note: As of the **week ending April 1.***

BloombergNEF

Crude stocks: Floating

Bearish: Surplus widened over the recent week

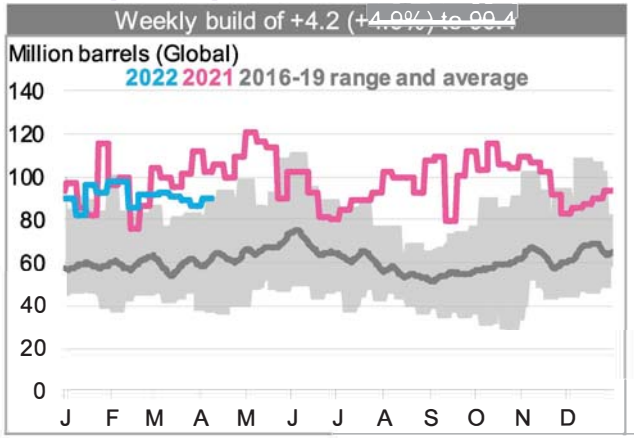
- Floating storage is only profitable if the strength of contango (future vs. prompt price) is greater than the tanker costs. Therefore, tankers become floating storage when the profit from a storage play exceeds the cost of the forward freight agreement (FFA).
- The floating storage data used in the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

Vortexa's revision to global floating crude inventories

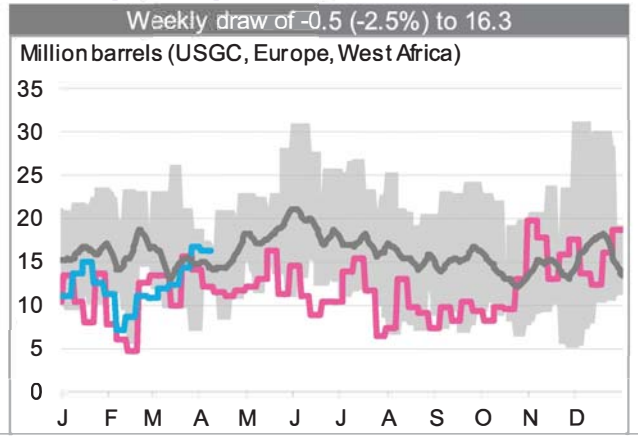
Million barrels	Previous report	Current report	Vortexa's revision
Inventories in week of Apr. 1	93.4	**86.2***	-7.2
Inventories in week of Mar. 25	92.7	89.3	-3.4

*Note: *Figure used to aggregate total oil inventories on page 12.*

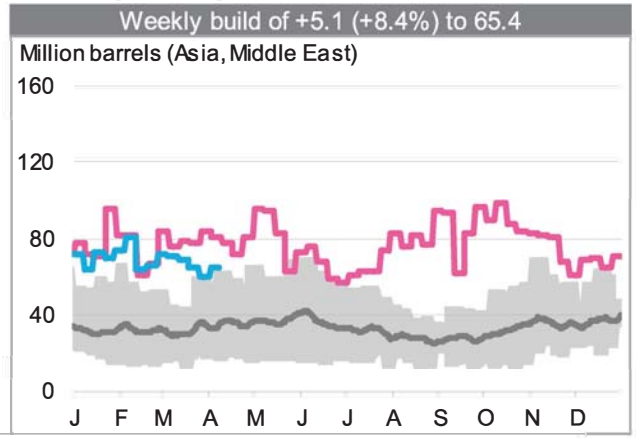
Floating storage: Total



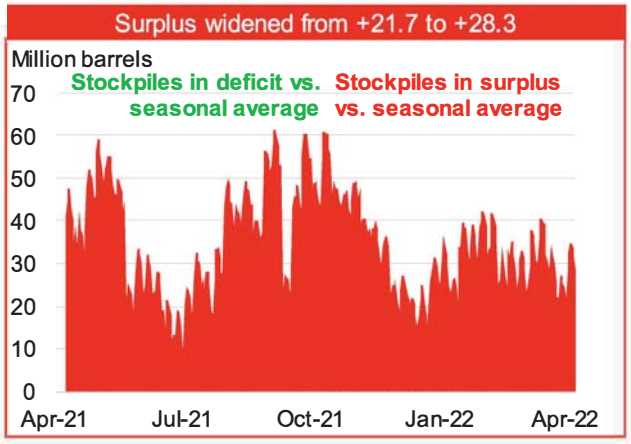
Floating storage: West of Suez

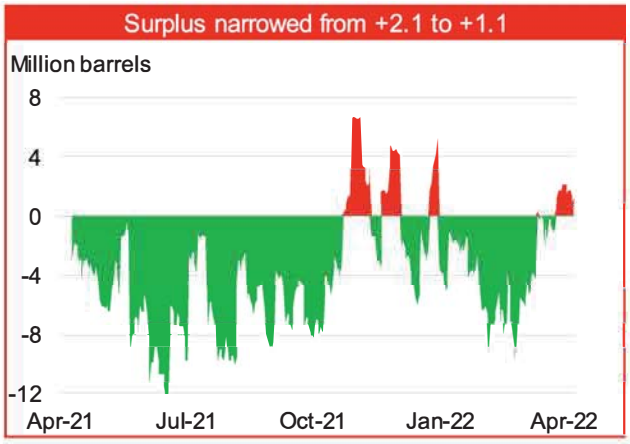


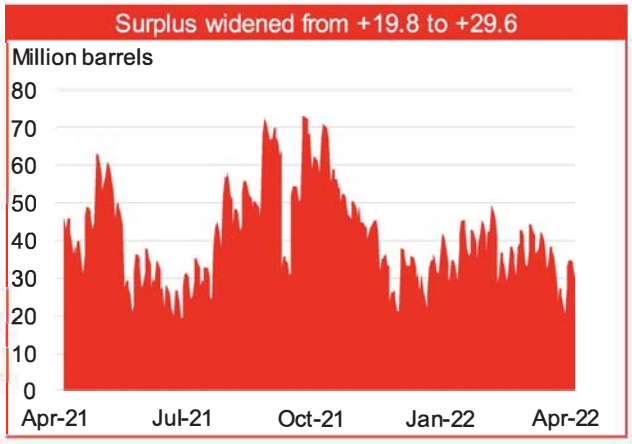
Floating storage: East of Suez



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







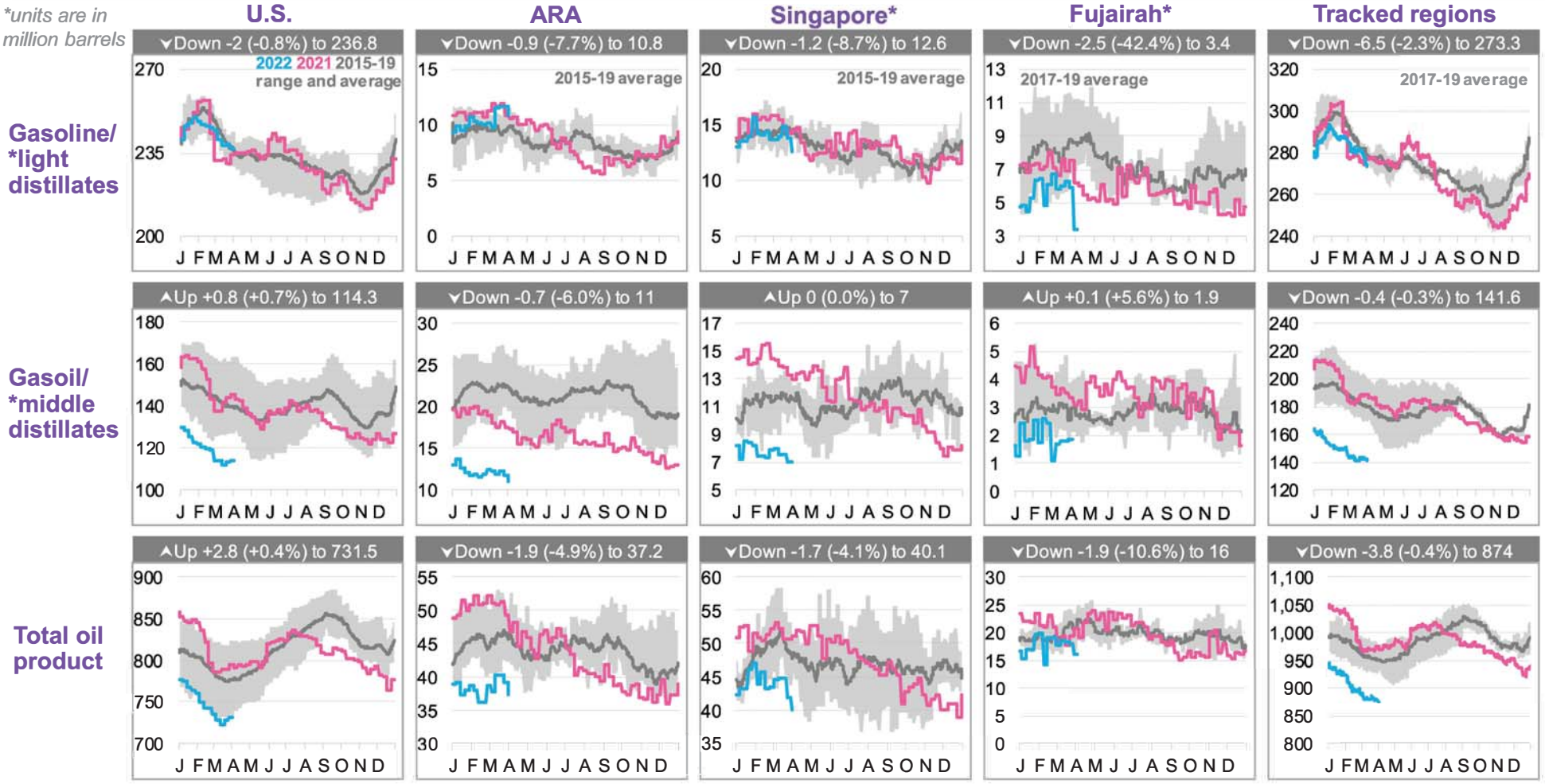
*Source: BloombergNEF, Vortexa. Note: As of the **week ending Apr 8**. ***Raw data from Vortexa are revised frequently, so the data in this report might change week-to-week.***

Product stocks: Current vs. seasonal average

Neutral: Oil product stockpiles in tracked regions fell by 0.4% week-on-week

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

**units are in million barrels*



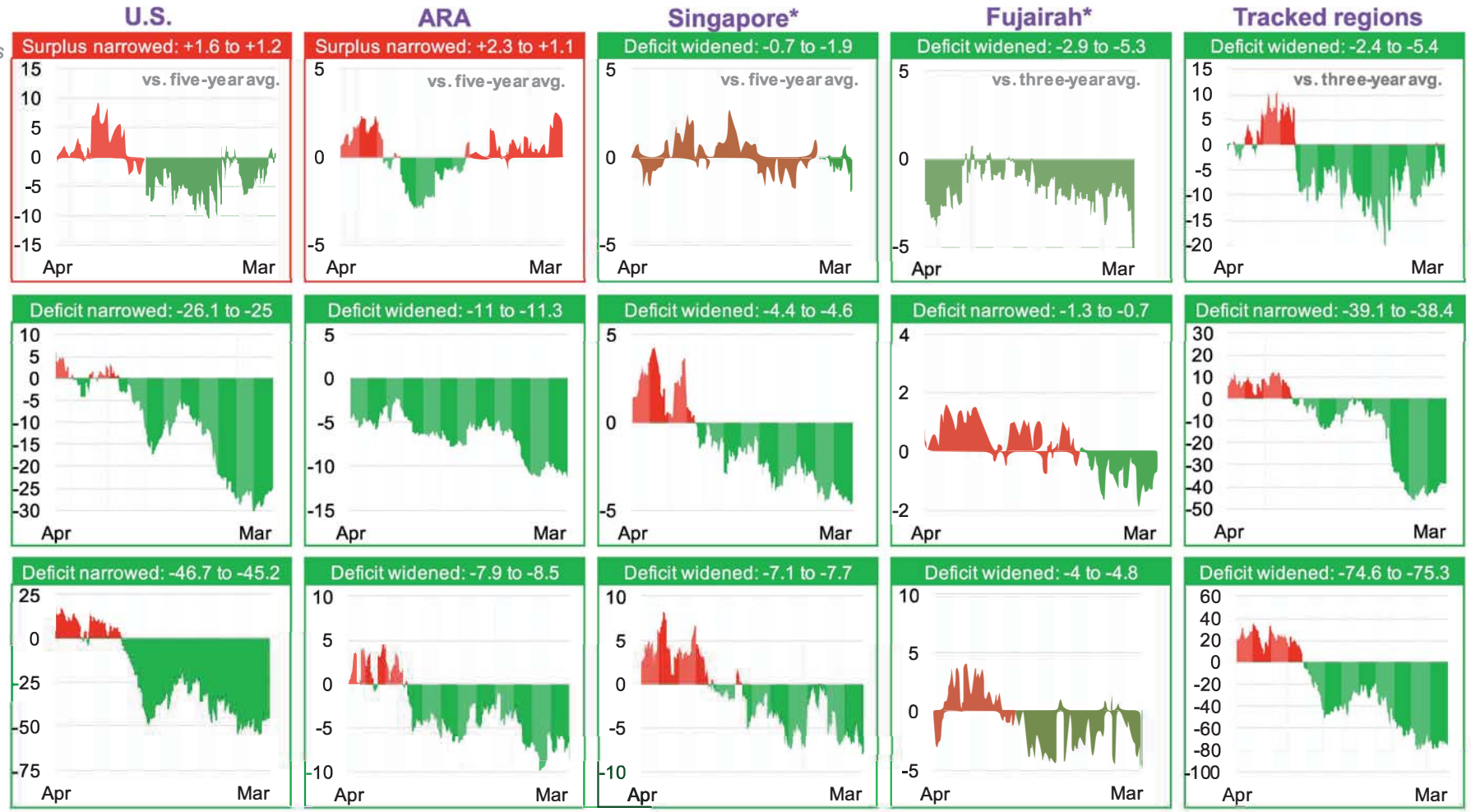
*Source: BloombergNEF, U.S. EIA, PJK, IE Singapore, FEDCom/Platts, PAJ. Note: As of the **week ending April 1.***

Product stocks: Current vs. seasonal average

Neutral: Oil product stockpile deficit against the seasonal average widened from 74.6m bbl to 75.3m bbl

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

**units are in million barrels*



*Source: BloombergNEF, U.S. EIA, PJK, IE Singapore, FEDCom/Platts, PAJ. Note: As of the **week ending April 1.***

BloombergNEF

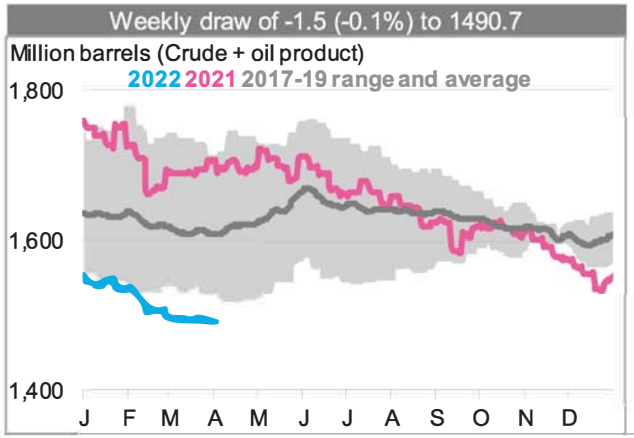
Aggregated oil stockpiles

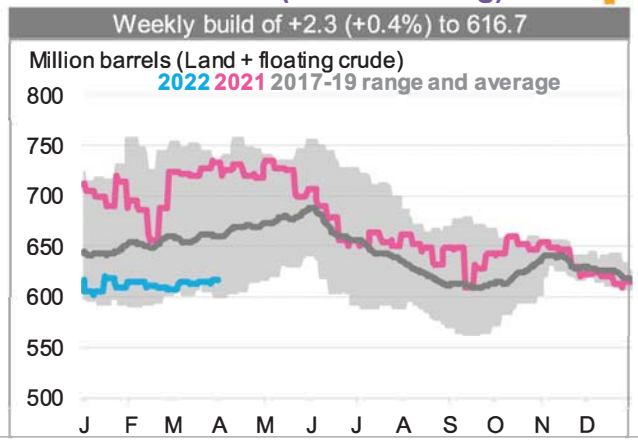
Note: We will continue to compare current inventory levels with the three-year (2017-19) seasonal average for the time being. Crude inventory data for Shandong teapots were excluded since January 10.

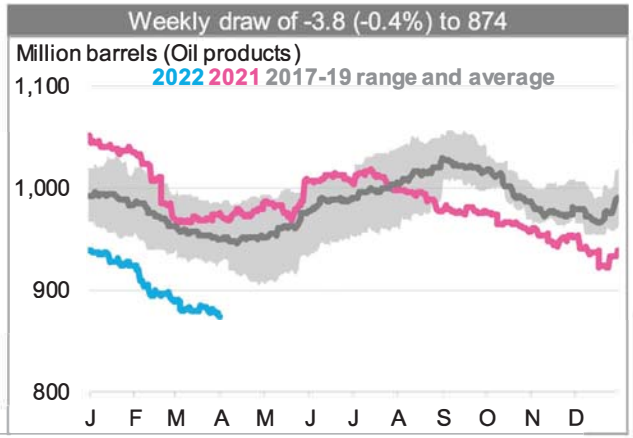
Neutral: Stockpiles deficit narrowed from 129.6m bbl to 125.2m bbl

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

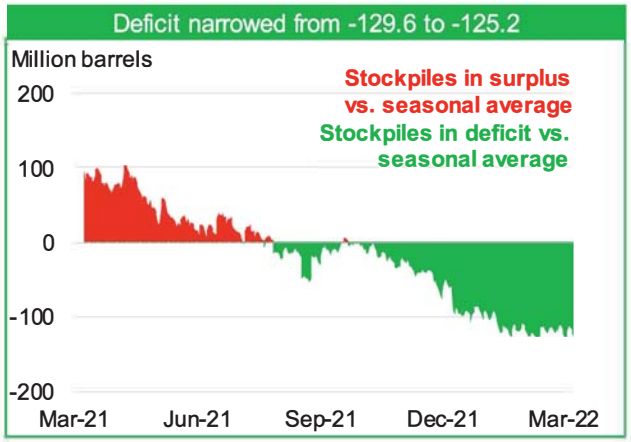
Total oil and product stocks = **Total crude stocks (land + floating)** + **Total oil product stockpiles**

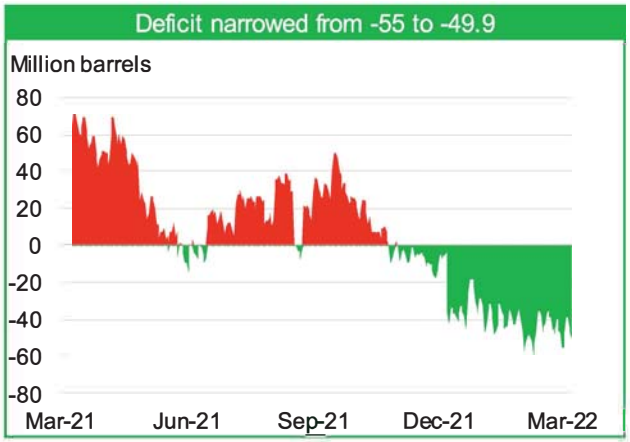


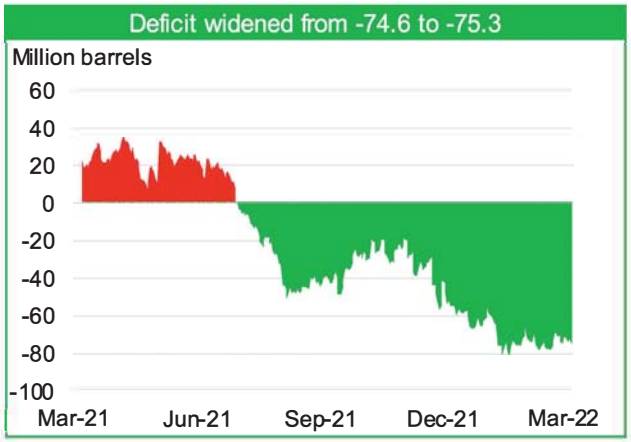




Charts below subtract current stockpiles by the 2017-19 (three-year) seasonal average







*Source: BloombergNEF, U.S. EIA, PJK, IE Singapore, FEDCom/Platts, PAJ ,Vortexa, Genscape, SCIG. As of the **week ending April 1.***

Apr 13, 2022 06:45:31

OIL DEMAND MONITOR: Europeans Fly More, China Schedules Blurred

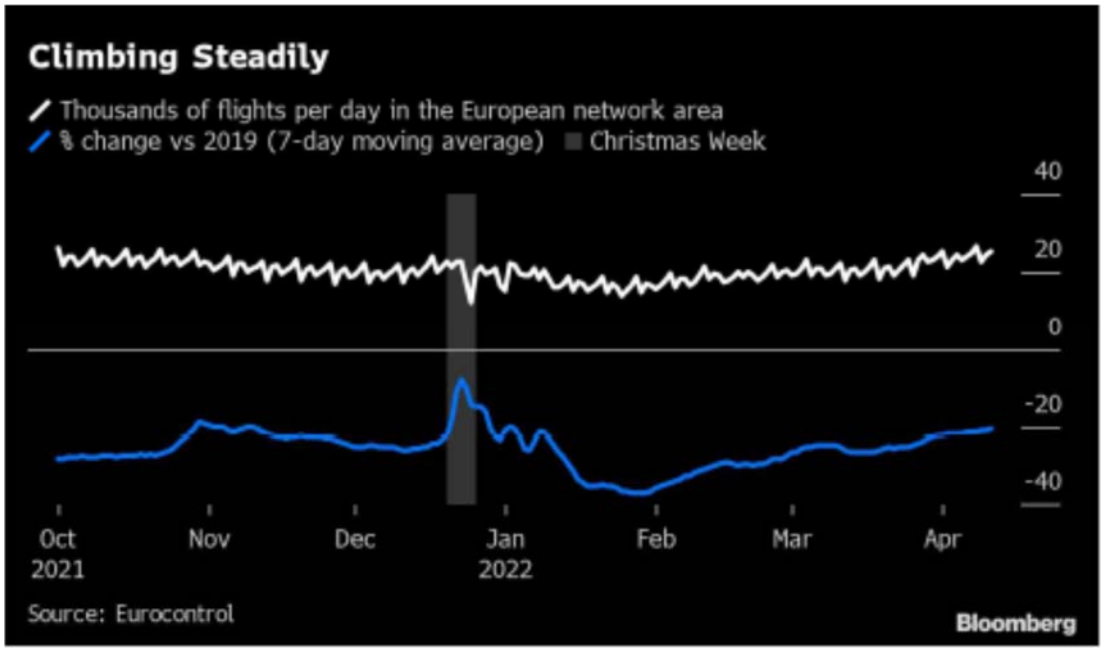
- China bulks out flight schedules but many planes get canceled
- Toll road traffic data weaker for France, Italy and Spain

By Stephen Voss

(Bloomberg) -- European airlines are slowly but steadily increasing the number of international flights and seat capacity worldwide is also gaining, while road traffic intensity has stalled lately as fuel prices soar, high frequency data monitored by Bloomberg show.

U.S. Energy Department estimates reflect this pattern, with jet fuel demand gaining about 7% over the past month while gasoline and distillates fell. Aviation consumption still lags pre-Covid levels by a lot more than other types of oil-based fuels, though the gap continues to narrow as more countries shake off coronavirus restrictions.

Flights in Europe on Monday were about 20% less than the same period of 2019, a much smaller deficit than the 37% at the end of January, according to Eurocontrol, which measures arrivals and departures across the continent. China's ongoing battle with coronavirus outbreaks is a cause for concern though, prompting downgrades in the nation's expected demand for jet fuel.



Separately, schedules show that the number of seats offered by airlines worldwide will rise above 100 million per week in about seven weeks time for the first time since the pandemic struck, according to OAG Aviation, though this is still subject to change.

Seat capacity advances earlier this year had stalled in late February and March, partly due to strict lockdowns in parts of China. Global capacity has jumped higher again for the week starting April 11, to 85.2 million, as Chinese airlines add more flights to their rosters again, the OAG data show. More international journeys in and across Europe also helped.

However, it's not yet clear whether fatter forward schedules will translate into more planes in the sky. The number of tracked flights at Shanghai's two main airports, Pudong and Hongqiao, declined markedly through March amid severe movement restrictions to combat a coronavirus outbreak, and haven't yet recovered, according to tracking by FlightRadar24. Many of the region's scheduled flights are ultimately canceled.

"Chinese air traffic is unlikely to fully recover by the end of 2022 under the current zero-Covid policy," the International Energy Agency said Wednesday in a monthly report. The Paris-based agency expects a 25,000 barrel-a-day decline in China's jet-kerosene demand this year, versus previous expectations of a growth of 10,000 barrels a day.

Road traffic tells a different story for early April. This monitor regularly examines 13 world cities, tracking congestion levels at 8 a.m. local time each Monday morning, using TomTom NV data. Since Jan. 17, at least one of those cities, sometimes two, have shown higher congestion than the 2019 average for that time of the week. However, for Monday April 11, all 13 showed less traffic. New York, Taipei and London were down from 2019 levels by 12%, 25% and 52%, respectively. Europeans taking Easter vacations may have contributed to the quieter roads.

Broader data measuring toll-road volumes in France, Italy and Spain showed a decline in intensity in March, versus February, when each month is compared against the same period of 2019. To be sure, the data from motorway operator Atlantia show that all those countries were busier than a year ago, when harsher movement restrictions were in place.

U.S. Roads

U.S. road use has also weakened a little. Vehicles traveled a total of 15.3 billion miles on U.S. highways in the week ended April 3, down 1.9% from four weeks earlier, according to traffic sensors managed by the Department of Transportation. The tally is also 1.7% lower than the same week of 2019, with passenger cars down 4.6% and trucks up 7.8%.

High prices may be forcing some motorists off the roads, especially for recreational travel, the U.S. Energy Information Administration said. While the higher costs don't yet appear to be significantly deterring commuters from an activity so woven into the normal fabric of life, various governments are nevertheless reducing taxes to offset the burden. Governor Gavin Newsom is asking lawmakers in California to back his plan to give $400 refunds to personal car and truck owners.

U.K. road fuel sales have wobbled in recent weeks after a brief bout of panic buying in late February when Russia invaded Ukraine. Gasoline and diesel sales in the seven days ended April 3 are about 9% below the pre-pandemic average just before the country's first national lockdown in 2020. They've only twice managed to rise above that level on a seven-day rolling average basis: during late February and a previous panic-buying blip in September.

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

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

Demand Measure	Location	% y/y	% vs 2020	% vs 2019	% m/m	Freq	Latest Date	Latest Value	Source
Gasoline	U.S.	-2.5	+69	-6.2	-4.5	w	April 1	8.56m b/d	EIA
Distillates	U.S.	-0.5	-4.2	-12	-21	w	April 1	3.65m b/d	EIA
Jet fuel	U.S.	+15	+92	-23	+7.2	w	April 1	1.45m b/d	EIA
Total oil products	U.S.	+3	+37	-1.1	-6.6	w	April 1	19.8m b/d	EIA
All vehicles miles traveled	U.S.			-1.7	-1.9	w	April 3	15.3b miles	DoT
Passenger car VMT	U.S.			-4.6		w	April 3	n/a	DoT
Truck VMT	U.S.			+7.8		w	April 3	n/a	DoT
All motor vehicle use index	U.K.	+55	+151	-7	-3.1	w	April 4	93	DfT
Car use	U.K.	+41	+162	-11	-2.2	w	April 4	89	DfT
Heavy goods vehicle use	U.K.	+187	+74	+6	-0.9	w	April 4	106	DfT
Gasoline (petrol) avg sales per filling station	U.K.	+15		-7.6	-10	w	April 3	6,735 liters/d	BEIS
Diesel avg sales per station	U.K.	+9.4		-11	-8.4	w	April 3	9,342 liters/d	BEIS

Total road fuels sales per station	U.K.	+12		-9.4	-9.2	w	April 3	16,077 liters/d	BEIS
Gasoline	India	+8.7		+14	+17	2/m	March 1-31	2.69m tons	Bberg
Diesel	India	+10		+5	+22	2/m	March 1-31	7.06m tons	Bberg
LPG	India	+12		+13	+4	2/m	March 1-31	2.54m tons	Bberg
Jet fuel	India	+9.8		-28	+24	2/m	March 1-31	491k tons	Bberg
Total Products	India	+4.2	+22	-0.8	+10	m	March	19.4m tons	PPAC
Toll roads volume	France	+27		-2.2		m	March	n/a	Atlantia
Toll roads volume	Italy	+39		-3.7		m	March	n/a	Atlantia
Toll roads volume	Spain	+25		-11		m	March	n/a	Atlantia
Toll roads volume	Brazil	+19		+3.6		m	March	n/a	Atlantia
Toll roads volume	Chile	+30		+11		m	March	n/a	Atlantia
Toll roads volume	Mexico	+9.4		+13		m	March	n/a	Atlantia
Gasoline	Spain	+9.4			+5.4	m	March	448k m3	Exolum
Diesel (and heating oil)	Spain	-6.5			-3.2	m	March	2210k m3	Exolum
Jet fuel	Spain	+191			+27	m	March	390k m3	Exolum
Road fuel sales	France	+10	-1.8		+3.3	m	February	3.749m m3	UFIP
Jet fuel	France	+74	-31		-5.5	m	February	413k m3	UFIP
Gasoline	France	+22	+7.5			m	February	n/a	UFIP
Road diesel	France	+6.8	-4.4			m	February	n/a	UFIP
All petroleum products	France	+11	-5.6		+1.3	m	February	4.285m tons	UFIP
Total fuel sales	Italy	+11		-2.5	+6	m	February	3.9m tons	Ministry
Gasoline	Italy	+18		+3.7	+7.4	m	February	539k tons	Ministry
Diesel /gasoil	Italy	+9.3		+1.5	+12	m	February	2.06m tons	Ministry
Jet fuel	Italy	+130		-45	-8.7	m	February	179k tons	Ministry
All vehicles traffic	Italy	+30			+1	m	March	n/a	Anas
Heavy vehicle traffic	Italy	+1.6			+8	m	March	n/a	Anas
Gasoline	Portugal	+52	-8.5	-4.1	-0.8	m	February	72k tons	ENSE
Diesel	Portugal	+27	-2.7	-2.3	+4.1	m	February	370k tons	ENSE
Jet fuel	Portugal	+313	-28	-18	-8.6	m	February	75k tons	ENSE

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

City congestion:

Measure	Location	% chg vs avg 2019	% chg m/m	April 11	Apr. 4	Mar. 28	Mar. 21	Mar. 14	Mar. 7	Feb. 28	Feb. 21	Feb. 14
		(April 11)		Congestion minutes added to 1 hr trip at 8am* local time								
Congestion	Tokyo	-24	-22	28	31	34	8	36	35	34	35	25
Congestion	Taipei	-25	-14	26	3	50	34	31	49	3	44	47
Congestion	Jakarta	-15	+15	33	31	37	30	29	23	zero	12	11
Congestion	Mumbai	-48	+14	25	23	22	22	22	20	18	19	17
Congestion	New York	-12	-4	28	32	30	28	29	29	31	5	28
Congestion	Los Angeles	-37	-23	22	27	19	29	29	31	32	6	29
Congestion	London	-52	-59	18	23	36	40	44	42	43	47	21
Congestion	Rome	-14	-1	42	37	33	35	43	37	35	35	34
Congestion	Madrid	-88	-88	4	23	23	35	34	43	8	24	25
Congestion	Paris	-15	-17	38	39	37	39	46	43	24	29	46
Congestion	Berlin	-43	-24	19	30	26	26	25	11	28	29	26
Congestion	Mexico City	-60	-49	20	38	40	zero	39	37	35	32	29
Congestion	Sao Paulo	-23	unch	31	31	28	30	31	35	10	29	28

Source: TomTom. Click here for a PDF with more information on sources, methods.
* 9am statistics are used for Mumbai and Sao Paulo, rather than 8am.
NOTE: m/m comparisons are April 11 vs March 14. Taipei had a public holiday on April 4, reducing traffic that day, and many European households are on Easter vacations this week. TomTom has been unable to provide Chinese data since April 2021. Taipei and Jakarta were added to the table in December 2021.

Air Travel:

Measure	Location	y/y	vs 2 yrs ago	vs 2019	m/m	w/w	Freq.	Latest Date	Latest Value	Source
		changes shown as %								
Airline passenger throughput	U.S.	+56	+2434	+9.7	+0.2	+4.1	d	April 10	2.29m	TSA
Commercial flights	Worldwide	+11	+195	-21	-5.2	+2.6	d	April 11	88,059	FlightRadar24
All flights	Worldwide	+6.2	+165	-0.8	-2.8	+4	d	April 11	178,479	FlightRadar24
Air traffic (flights)	Europe			-20	+19	+3.6	d	April 11	25,074	Eurocontrol
Seat capacity	Worldwide	+37	+160	-22	+3.8	+1.5	w	April 11-17	85.2m	OAG
Seat capacity	North America			-9.9		+0.5	w	April 11-17	n/a	OAG
Seat capacity	North East Asia			-42		+7.2	w	April 11-17	n/a	OAG
Seat capacity	South East Asia			-41		+1.8	w	April 11-17	n/a	OAG
Seat capacity	South Asia			+7.5		-0.2	w	April 11-17	n/a	OAG
Seat capacity	Western Europe			-17		+0.8	w	April 11-17	n/a	OAG

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

Refineries:

Measure	Location/area	y/y	chg vs 2019	m/m chg	Latest as of Date	Latest Value	Source
		Changes are in ppt unless noted					
Crude intake	U.S.	+6%	+0.6%	+3.7%	April 1	15.9m b/d	EIA
Apparent Oil Demand	China	+2.9%		+0.5%	Jan.-Feb. 2022	13.71m b/d	NBS
Utilization	U.S.	+8.5	+6.1	+3.2	April 1	92.5 %	EIA
Utilization	U.S. Gulf	+12	+7.4	+3.4	April 1	95.2 %	EIA
Utilization	U.S. East	-1	+1.2	-5.4	April 1	80.2 %	EIA
Utilization	U.S. Midwest	+4.1	+8.1	+3	April 1	92.8 %	EIA

NOTE: All of the refinery data is weekly, except NBS apparent demand, which is usually monthly. Changes are shown in percentages for the rows on crude intake and Chinese apparent oil demand, while refinery utilization changes are shown in percentage points. SCI99 data on Chinese refinery run rates was discontinued in late 2021.
NOTE: The latest NBS data is an average for January and February, and the m/m change is the comparison of that average versus December's level

Air Passenger Market Analysis

February 2022

Air travel recovery accelerated in February despite the conflict

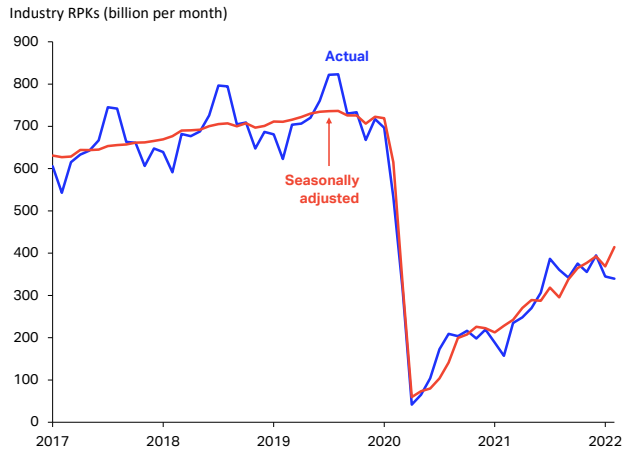
- Industry-wide revenue passenger-kilometers (RPKs) increased by 115.9% year-on-year (YoY) in February 2022. They were at 54.5% of February 2019 levels, better than in January but slightly below December 2021. Seasonally adjusted RPKs posted a strong increase on the month.
- The conflict in Ukraine only had a limited impact on air travel demand in February, as even travel within Europe or between Asia and Europe performed well. That said, the spread of Omicron in China, as well as elevated inflation and falling consumer confidence, will add to the challenges threatening the recovery.
- Ticket sales for future travel indeed point to a deterioration in domestic air travel, with resilient international traffic.

Air travel was buoyant in February

Air passenger traffic experienced a strong rebound in February as Omicron became less of a burden on societies outside of Asia. The conflict in Ukraine has not had a major impact on February traffic data. In February 2022, industry-wide revenue passenger-kilometers (RPKs) grew by 115.9% year-on-year (YoY), but were still only at 54.5% of the levels of February 2019. The comparison with 2019 is better than that of January (50.6%) but below that of December 2021 (55.1%).

The improvement is confirmed by seasonally adjusted (SA) RPKs, which increased by 12.4% month-on-month (MoM) in February. This follows a 6.1% MoM fall in January, but it looks as though Omicron only imposed a minor delay to the global air travel recovery (**Chart 1**).

Chart 1 – Global air passenger volumes (RPKs)

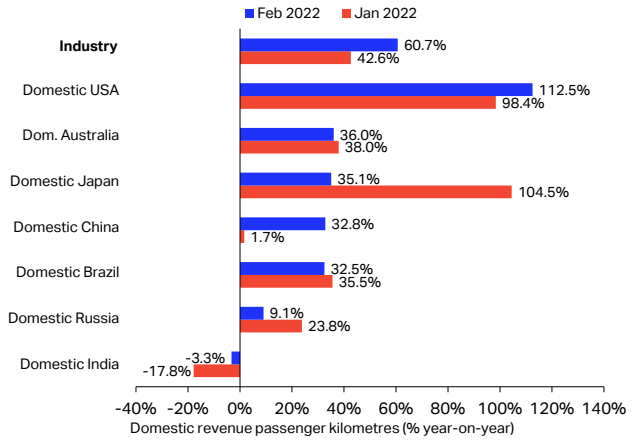


Sources: IATA Economics, IATA Monthly Statistics

Domestic RPKs improved, but with some disparity…

There was an overall improvement in domestic RPKs globally, as they were up 60.7% YoY in February, following a 42.6% increase in January. They remained 21.8% below the volumes of February 2019, worse than the 10.8% fall of December 2021 – the maximum so far in the pandemic when comparing with 2019. Performance was quite disparate across the main markets we track (**Chart 2**).

Chart 2 – Domestic RPK growth (airline region of registration basis), %YoY



Sources: IATA Economics, IATA Monthly Statistics

RPKs in the USA were 112.5% above 2021 levels in February, an improvement from January (98.4%). They are only 6.6% below February 2019 levels, but that remains worse than the 5.5% gap with 2019 seen in November 2021. The easing of labor shortages and flight cancellations related to Omicron, weather and other issues explains the improvement in February.

Air passenger market overview - February 2022

	World share [1]	February 2022 (% year-on-year) RPK	ASK	PLF (%-pt)[2]	PLF (level)[3]	% year-to-date RPK	ASK	PLF (%-pt)[2]	PLF (level)[3]
TOTAL MARKET	***100.0%***	**115.9%**	**68.4%**	**15.4%**	**69.8%**	**98.0%**	**59.4%**	**13.1%**	**67.1%**
International	*37.6%*	256.8%	112.4%	26.4%	65.4%	203.5%	98.7%	21.9%	63.4%
Domestic	*62.4%*	60.7%	39.7%	9.7%	74.3%	51.1%	33.2%	8.4%	70.8%

[1]% of industry RPKs in 2021 [2]Year-on-year change in load factor [3]Load factor level

Domestic air travel in Australia grew by 36.0% YoY in February, in line with the previous month. The upshot is that traffic remains 53.8% below February 2019, and also lower than Q2 2021, before the Delta variant hit. There was a small deterioration in domestic RPKs in Brazil, which were up 32.5% YoY in February. India's domestic air travel volumes fell by 3.3% YoY in February, an improvement from the 17.8% drop the month before.

Japan was strongly impacted by the spread of the Omicron variant in February, leading to the highest number of deaths and severe cases in the crisis so far. Although no strict lockdowns have been used, travelers have usually followed advice to limit domestic trips, resulting in RPKs being only 35.1% above 2021 levels in February. This is down from 104.5% in January. RPKs are 64.8% below February 2019 values – the worst among the countries we track – and there was a 26.1% MoM fall in SA RPKs.

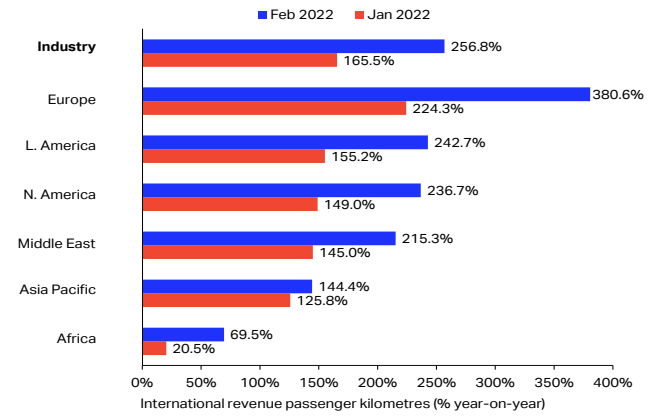
YoY growth in domestic RPKs in China improved from 1.7% in January to 32.8% in February. This is however partly due to base effect related to the timing of Chinese New Year, as the comparison with 2019 only improved marginally (to 35.3% below February 2019) while SA traffic volumes were flat. Domestic RPKs will drop in March due to lockdowns and travel restrictions that follow the spread of Omicron in the country.

Perhaps surprisingly, Russia was not the worst performer in terms of domestic RPKs growth. It was still at 9.1% YoY in February, despite the start of the conflict with Ukraine on 24 February. That said, SA RPKs dropped by 14.6% MoM, and ticket sales point to clear deteriorations from March onwards.

… while all the main international regions progressed

International RPKs rose by 256.8% YoY in February, a clear sign of the significant progress achieved in the recovery during the past twelve months (**Chart 3**).

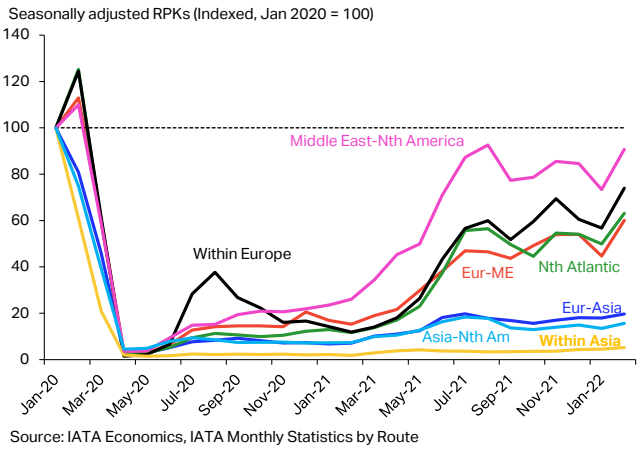
Chart 3 – International RPK growth (airline region of registration basis), %YoY



Sources: IATA Economics, IATA Monthly Statistics

Airlines based in Europe performed the best in YoY terms in February, although that is partly due to a favorable base effect. International RPKs are 45.4% below levels of February 2019, and SA RPKs climbed by 11.1% MoM. The impact of the war in Ukraine has been relatively limited so far for this region, outside of international Russia and countries neighboring the conflict. In fact, traffic between Europe and Asia rose by 9.6% MoM in seasonally adjusted terms, while traffic Within Europe was up 30.3% on the same basis. The whole region was in the midst of a strong recovery when the war started (**Chart 4**).

Chart 4: Seasonally adjusted international RPKs



Source: IATA Economics, IATA Monthly Statistics by Route

More precise ticket sales data suggest the fall in traveler confidence was moderate, and that it rebounded rapidly. What is more, refugee movements within Europe led to a strong surge in outbound travel from countries neighboring Ukraine. That will partly insulate the region from any large fall in traffic in March.

Carriers in Latin America and North America saw similar improvements in YoY international RPK growth, which was at respectively 242.7% and 236.7% in February. In both regions, international traffic volumes are around 40% below February 2019. International RPKs of airlines based in the Middle East were up 215.3% in February 2022 versus February 2021.

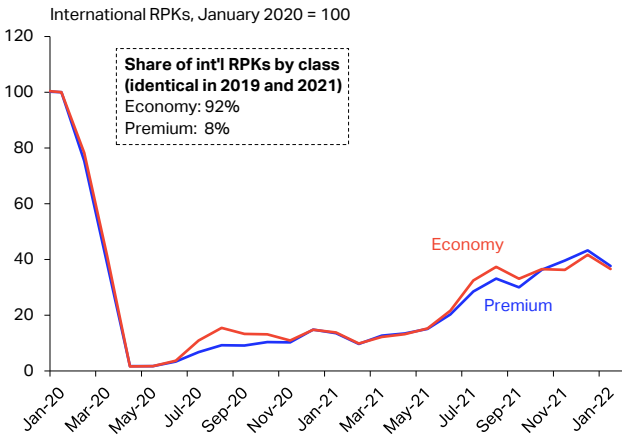
The recovery remains slow for airlines registered in Asia. In February, their international RPKs grew 144.4% YoY, a sign of the progress that has already been made. RPKs were 88.0% below February 2019 levels, but there is comfort from the upward trend in SA RPKs. The recent news of the easing of travel restrictions in many countries in the region (South Korea, New Zealand, Singapore, Thailand…) is a positive.

Airlines based in Africa experienced a 69.5% YoY growth rate in their international RPKs in February. The same metric was 52.0% below its level of February 2019, worse than other regions outside of Asia. This highlights the challenges facing the continent as vaccination rates are low, and with a difficult economic outlook for emerging markets.

Premium and economy travel are recovering in line

The pace of the recovery has been similar across cabin classes. Economy RPKs – which also include premium economy but only make up a small part of the total – were at 37% of January 2020 levels in January 2022, and up 178% YoY. Premium RPKs – which capture first and business classes – were at 38% of January 2020 values and up 165% YoY in January 2022, the latest data point. While demand for business travel is slower to recover, this is offset by higher willingness to pay from leisure travelers (**Chart 5**).

Chart 5: International RPKs by cabin class



Source: IATA Monthly Statistics

More capacity together with improving load factors

Air passenger capacity was only marginally impacted by Omicron in January, and improved again in February. Industry-wide available seat-kilometers (ASKs) increased by 68.4% YoY in February. They are down 37.0% versus February 2019.

The global passenger load factor (PLF) was at 69.8% in February, up 15.4 percentage points (ppts) YoY. It remains 13.4ppts below February 2019, better than in January (18.9ppts) but worse than prior to Omicron (11.7ppts in November 2021).

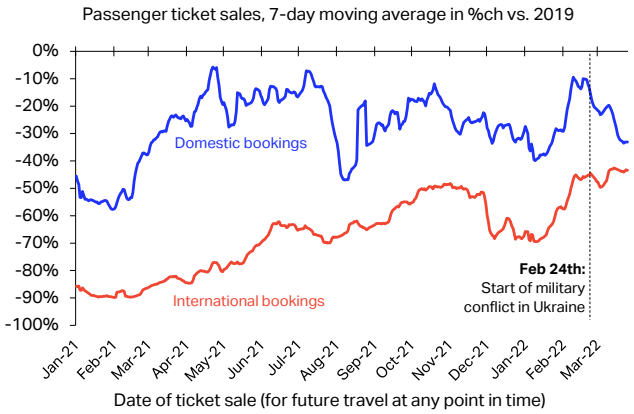
Forward bookings show further damage from Omicron

The war in Ukraine and its ramifications, the spread of Omicron in China, and elevated global inflation will all put downward pressures on RPKs in March and after.

That said, tickets sold in recent weeks for future travel point to ongoing resilience. International bookings dropped a bit following the start of the conflict, but recovered after a few days and have trended sideways since then. The upward trend seen in late-January to early-February had already paused just before the war, suggesting that it may have other causes.

Domestic ticket sales have however been trending downwards over the same period, and are currently around 33% below 2019 levels. Bookings for trips within Russia are 20-25% below 2019 levels in late-March, worse than prior to the war (10-15% above in mid-February). But it is mainly domestic China that drives the deterioration, with bookings pointing to a severe impact from the wave of Omicron spreading there in late March (**Chart 6**).

Chart 6: Passenger ticket sales (dom. vs. int'l), global



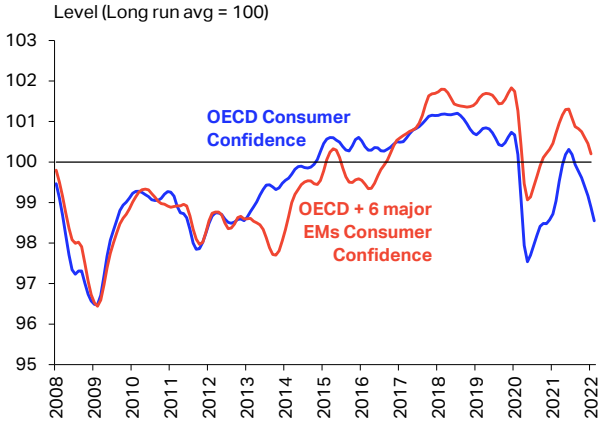
Source: IATA Economics using DDS ticketing data (25 Mar 2022)

Consumer confidence has dropped sharply

The link between air travel demand and inflation is not straightforward. Higher inflation does not necessarily entail higher fares – at least not immediately – while higher fares may not meaningfully dampen demand during recovery periods or when there is a strong willingness to travel. In particular, the elevated excess savings consumers in advanced economies accumulated in 2020 and 2021 may temporarily insulate them from price increases.

What is clearer is that consumer confidence has fallen sharply since mid-2021. The OECD's consumer confidence index has declined to values close to those of late-2020. Most economies have seen a decline, although some are still close to or above the long-term average (China, Germany…). Typically, lower confidence means consumers may hold off from large purchases, such as travel by air (**Chart 7**).

Chart 7: Consumer confidence compared to average



Sources: IATA, Refinitiv Eikon

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6 April 2022

Air passenger market in detail - February 2022

	World share [1]	February 2022 (% year-on-year) RPK	ASK	PLF (%-pt)[2]	PLF (level)[3]	% year-to-date RPK	ASK	PLF (%-pt)[2]	PLF (level)[3]
TOTAL MARKET	*100.0%*	**115.9%**	**68.4%**	**15.4%**	**69.8%**	**98.0%**	**59.4%**	**13.1%**	**67.1%**
Africa	*1.9%*	60.2%	33.1%	11.0%	64.8%	39.3%	22.4%	7.6%	63.1%
Asia Pacific	*27.6%*	42.9%	31.9%	4.8%	62.9%	31.4%	23.6%	3.6%	60.4%
Europe	*24.9%*	232.8%	136.1%	20.9%	72.1%	191.3%	119.1%	17.4%	70.1%
Latin America	*6.5%*	100.5%	75.1%	10.0%	79.5%	88.1%	64.9%	9.7%	78.9%
Middle East	*6.5%*	194.1%	80.9%	24.9%	64.8%	157.4%	72.2%	20.5%	61.9%
North America	*32.7%*	134.9%	69.1%	20.9%	74.5%	122.1%	63.8%	18.5%	70.3%
International	*37.6%*	**256.8%**	**112.4%**	**26.4%**	**65.4%**	**203.5%**	**98.7%**	**21.9%**	**63.4%**
Africa	*1.5%*	69.5%	34.7%	12.9%	63.0%	41.3%	20.9%	8.9%	61.4%
Asia Pacific	*3.2%*	144.4%	60.8%	16.1%	47.0%	134.2%	57.6%	15.4%	47.1%
Europe	*18.6%*	380.6%	174.8%	30.3%	70.9%	285.6%	148.5%	24.4%	68.6%
Latin America	*2.1%*	242.7%	146.3%	21.7%	77.0%	189.7%	112.3%	20.4%	76.3%
Middle East	*5.9%*	215.3%	89.5%	25.8%	64.7%	176.4%	79.9%	21.5%	61.6%
North America	*6.2%*	236.7%	91.7%	27.4%	63.6%	185.2%	84.3%	21.8%	61.7%
Domestic	*62.4%*	**60.7%**	**39.7%**	**9.7%**	**74.3%**	**51.1%**	**33.2%**	**8.4%**	**70.8%**
Dom. Australia[4]	*0.8%*	36.0%	28.9%	3.4%	64.2%	37.0%	34.1%	1.3%	60.2%
Domestic Brazil[4]	*1.9%*	32.5%	25.9%	4.0%	80.9%	34.2%	29.4%	2.9%	82.4%
Dom. China P.R.[4]	*17.8%*	32.8%	27.7%	2.6%	66.9%	15.5%	14.4%	0.6%	64.0%
Domestic India[4]	*2.2%*	-3.3%	-15.4%	10.7%	85.4%	-10.5%	-14.3%	3.2%	75.0%
Domestic Japan[4]	*1.1%*	35.1%	74.8%	-11.0%	37.5%	70.7%	59.2%	2.7%	40.9%
Dom. Russian Fed.[4]	*4.5%*	9.1%	15.2%	-4.6%	81.7%	16.8%	18.6%	-1.2%	83.2%
Domestic US[4]	*25.6%*	112.5%	60.4%	19.3%	78.7%	105.5%	55.9%	17.8%	73.8%

[1]% of industry RPKs in 2021 [2]Year-on-year change in load factor [3]Load factor level

[4] Note: the seven domestic passenger markets for which broken-down data are available account for approximately 54% of global total RPKs and 86% of total domestic RPKs

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

Air passenger market - 2022 vs. 2019

	February 2022 (% ch vs the same month in 2019) RPK	ASK	PLF (%-pt)[2]	PLF (level)[3]
TOTAL MARKET	**-45.5%**	**-37.0%**	**-10.8%**	**69.8%**
Africa	-50.6%	-46.2%	-5.8%	64.8%
Asia Pacific	-64.4%	-53.0%	-20.0%	62.9%
Europe	-41.7%	-33.9%	-9.7%	72.1%
Latin America	-26.6%	-24.8%	-2.0%	79.5%
Middle East	-44.8%	-38.4%	-7.5%	64.8%
North America	-20.3%	-13.8%	-6.1%	74.5%

[1]% of industry RPKs in 2021 [2]Change in load factor vs same month in 2019 [3]Load factor level

	February 2022 (% ch vs the same month in 2019) RPK	ASK	PLF (%-pt)[2]	PLF (level)[3]
International	**-59.6%**	**-50.8%**	**-14.2%**	**65.4%**
Africa	-52.0%	-46.9%	-6.6%	63.0%
Asia Pacific	-88.0%	-79.3%	-34.1%	47.0%
Europe	-45.4%	-36.5%	-11.6%	70.9%
Latin America	-43.9%	-40.7%	-4.3%	77.0%
Middle East	-46.2%	-39.9%	-7.7%	64.7%
North America	-44.4%	-31.3%	-15.0%	63.6%

[1]% of industry RPKs in 2021 [2]Change in load factor vs same month in 2019 [3]Load factor level

	February 2022 (% ch vs the same month in 2019) RPK	ASK	PLF (%-pt)[2]	PLF (level)[3]
Domestic	**-21.8%**	**-12.9%**	**-8.4%**	**74.3%**
Dom. Australia	-53.8%	-43.9%	-13.6%	64.2%
Domestic Brazil	-12.9%	-11.2%	-1.5%	80.9%
Dom. China P.R.	-35.3%	-15.1%	-20.8%	66.9%
Domestic India	-32.7%	-29.6%	-3.8%	85.4%
Domestic Japan	-64.8%	-32.7%	-34.2%	37.5%
Dom. Russian Fed.	15.0%	7.9%	5.0%	81.7%
Domestic US	-6.6%	-3.2%	-2.8%	78.7%

[1]% of industry RPKs in 2021 [2]Change in load factor vs same month in 2019 [3]Load factor level

Statistics compiled by IATA Economics used direct airline reporting complemented by estimates, including the use of FlightRadar24 data provided under license.

Air Cargo Market Analysis

February 2022

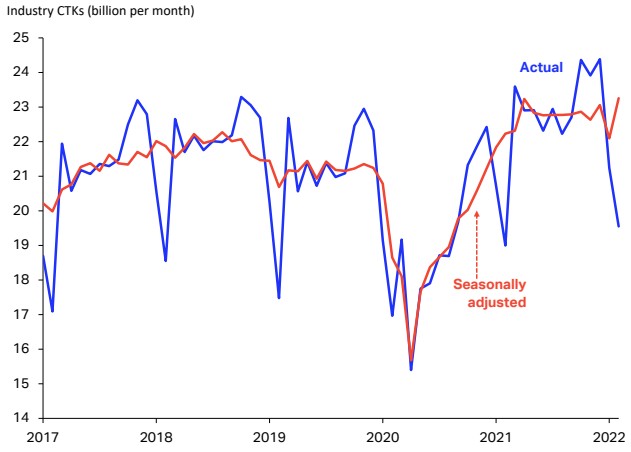
Air cargo growth continues despite a challenging backdrop

- Industry-wide cargo tonne-kilometers (CTKs) increased by 2.9% year-on-year in February. Accounting for the usual volatility surrounding the Chinese New Year and taking January and February together, CTKs were 2.7% above the same period in 2021. While below the growth rates seen in late 2021, it is nevertheless encouraging that cargo traffic is still growing despite the most challenging backdrop.
- February saw improvements in air cargo traffic thanks to reduced disruptions from Omicron outside of Asia, as well as the end of Chinese New Year. However, an Omicron wave spread in China and certain other Asian countries in February and March, and the war in Ukraine is having an impact on air cargo.
- Lockdowns and factory closures in Asia, sanctions related to the war, and shortages of crucial inputs are driving prices higher, and economic activity and trade lower. March therefore is likely to be a challenging month for air cargo.

Growth in air cargo continues despite war in Ukraine

Industry-wide cargo tonne-kilometers (CTKs) rose 2.9% year-on-year (YoY) in February 2022, compared to a 2.4% increase in January. Global CTKs were 11.9% above their February 2019 level (**Chart 1**). Although the conflict in Ukraine has impacted air cargo outcomes, it was partly offset by a confluence of temporary factors that include Chinese New Year and reduced disruptions from Omicron outside of Asia.

Chart 1: CTK levels, actual and seasonally adjusted



Sources: IATA Economics, IATA Monthly Statistics

Seasonally adjusted (SA) CTKs rose by 5.2% month-on-month (MoM) to a new all-time high. That followed a 4.2% drop in January. Such volatility is common around the Chinese New Year (1 Feb in 2022), as the period is not well captured in seasonal adjustments. Averaging January and February, CTKs were 1.7% below the level seen in December 2021, and the year thus started softly for air cargo. In year-on-year terms, January and February combined were up 2.7%, a notable slow-down from December's 8.7% YoY rise.

Drivers of air cargo gave mixed signals in February…

In North America, and Europe to a lesser degree, January was impacted by disruptions related to weather, labor shortages, and Omicron, causing flight cancellations and lower manufacturing activity. Some one-off disruptions unrelated to Omicron disappeared in February.

While the Omicron variant of COVID remains prevalent outside of Asia, its impact on economies and labor markets there eased significantly in February. Asia has nonetheless suffered from outbreaks of Omicron, which caused significant disruptions in markets such as Hong Kong and Japan in February already. Besides, the ongoing spread of Omicron in Asia, and China in particular, is causing new lockdowns and labor shortages, which will strongly impact air cargo transport in markets linked to China.

A rebound in activity in Chinese factories from mid-February, in the wake of the Chinese New Year, also contributed positively to air cargo markets connected to China in February. That is for example visible on the key Asia-North America market.

The war in Ukraine led to a fall in the capacity used to serve Europe, as several airlines based in Ukraine and Russia were crucial carriers in the region.

Air cargo market overview - February 2022

	World share [1]	February 2022 (% year-on-year)				Year-to-date (% year-on-year)			
		CTK	ACTK	CLF (%-pt)[2]	CLF (level)[3]	CTK	ACTK	CLF (%-pt)[2]	CLF (level)[3]
TOTAL MARKET	***100.0%***	**2.9%**	**12.5%**	**-4.9%**	**53.2%**	**2.7%**	**11.9%**	**-4.8%**	**53.6%**
International	*87.2%*	2.5%	8.9%	-3.8%	61.3%	2.9%	9.9%	-4.1%	60.1%

[1]% of industry CTKs in 2021 [2]Year-on-year change in load factor [3]Load factor level

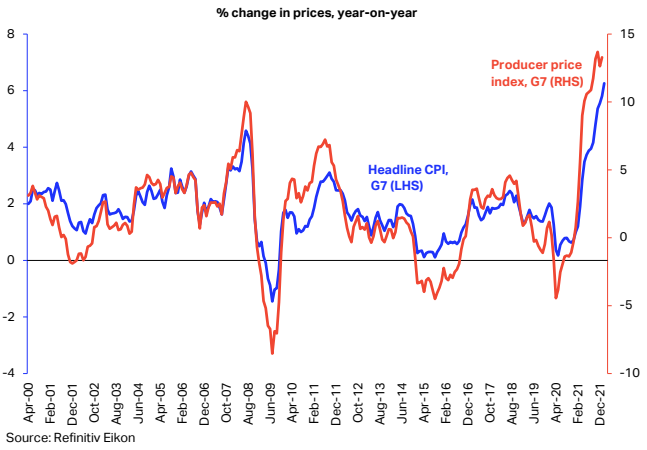
The Asia-Europe trade lanes in particular were significantly impacted from late February, with the disruption accelerating in March. Part of that can be made up elsewhere, notably through the Middle East. Overall, the impact of sanctions, higher commodity and fuel prices, uncertainty and other ramifications of the war were not strongly felt in global air cargo in February.

…and that will worsen in March

Some of the standard drivers of air cargo demand also point to current and future challenges. Inflation and many of its subcomponents are at their highest levels in decades. The general consumer price inflation for the G7 countries was at 6.3% YoY in February 2022, the highest since late 1982.

Early in March, daily close Brent crude oil prices reached their highest value since mid-2008. Labor costs have increased strongly, while the price of many commodities and key inputs such as semiconductors have also increased recently. In part due to that, producer price inflation (PPI) reached an all-time high in November 2021 at 13.7% YoY (**Chart 2**).

Chart 2: CTK growth versus global new export orders

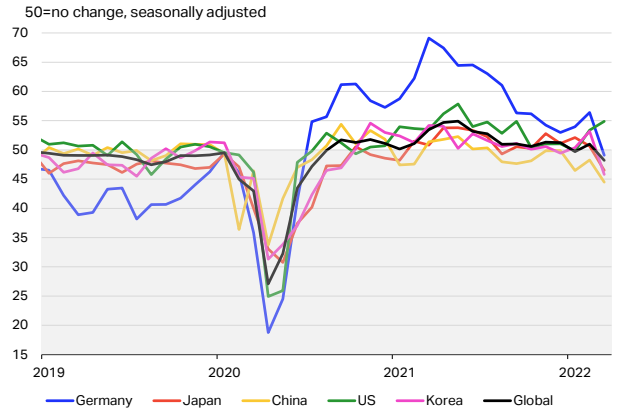


Source: Refinitiv Eikon

High inflation curtails purchasing power and arguably reduces demand for goods, including when they are carried by air. Inflation is expected to continue to remain elevated globally throughout 2022.

Inflation may already be dampening new export orders – a typically leading indicator of demand for air cargo shipments and historically strongly correlated with CTKs. Sanctions against Russia further added to the above, and there was a marked deterioration in new export orders in Germany, China, Japan and Korea among others. In both January and March 2022, the global new export orders PMI was below the 50-mark, which indicates deteriorations compared to the previous month. The March reading (48.2) was the lowest since July 2020 (**Chart 3**).

Chart 3: New export order manufacturing PMIs



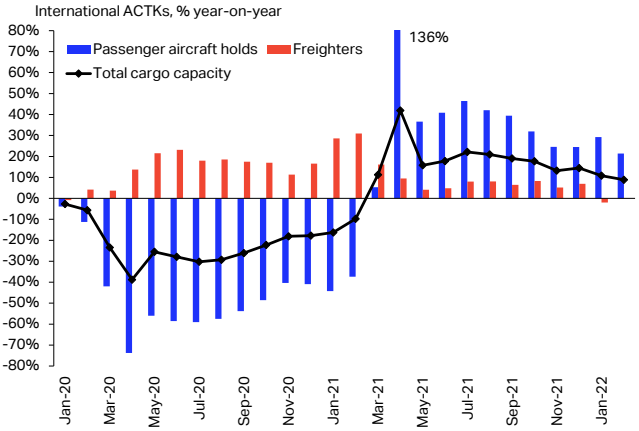
Source: Markit

The cargo capacity crunch eased further in February

International available cargo tonne-kilometers (ACTKs) were up 12.5% YoY in February, in line with the past four months. Seasonally adjusted ACTKs grew 7.6% MoM, but the average of January and February was 3.7% below the December 2021 levels.

International ACTKs onboard passenger aircraft increased by 21.4% YoY in February, but gains are slowing as international air passenger traffic normalizes. Besides, dedicated air cargo capacity was unchanged compared to February 2021, a relatively weak outcome that is partly due to the loss of capacity in Russia and Ukraine and to disruptions related to Omicron in Asia (**Chart 4**).

Chart 4: Int'l belly cargo and freighter capacity growth



Source: IATA Economics using data from IATA Monthly Statistics

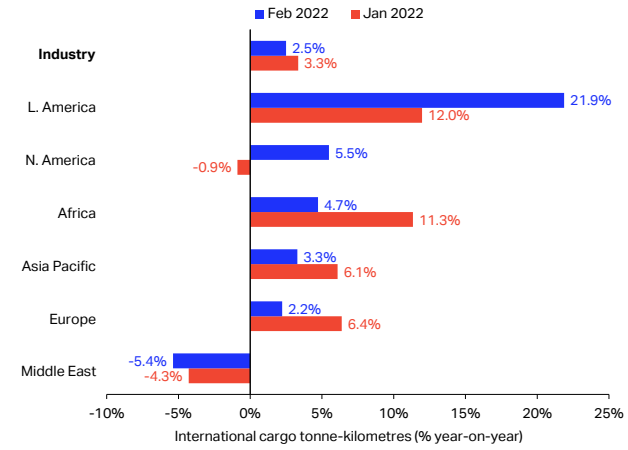
The industry-wide cargo load factor decreased by 4.9 percentage points (ppts) YoY to 53.2% in February. That follows a 4.7 ppts fall in January and is the largest YoY decline since February 2016. Pressures on air cargo supply chains are easing, but at a slow pace, and could reverse in March as cargo capacity tightens.

Mixed growth outcomes among the main regions

North America and Asia Pacific were the main contributors to the recovery in SA volumes, mirroring their contributions to the fall in SA CTKs in January. The Chinese New Year played a role in that pattern.

Overall, international CTKs grew by 2.5% YoY in February and were 12.4% above the pre-crisis month of February 2019. Performance was mixed across the regions, with significant improvements in annual growth in the Americas and deteriorations elsewhere (**Chart 5**).

Chart 5: Int'l CTK growth (airline region of registration)

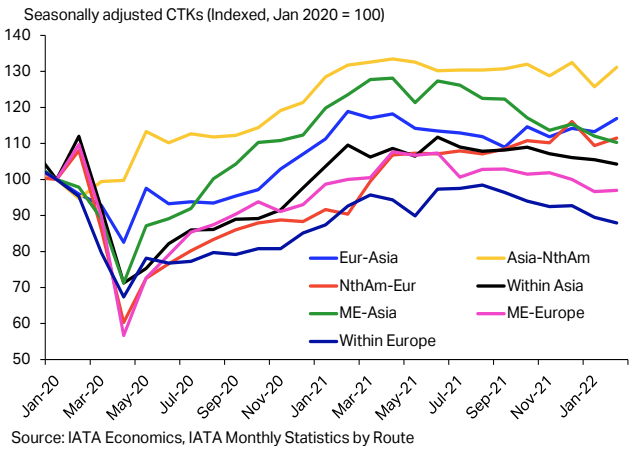


Sources: IATA Economics, IATA Monthly Statistics

Airlines based in Latin America seem to be benefitting from the end of bankruptcy procedures for some of the main carriers in the region. The region's international CTKs were up 21.9% YoY, but still 0.7% below the same month in 2019. International air cargo capacity in Latin America is on a steep upward trend.

International CTKs of airlines registered in North America increased by 5.5% YoY in February, following a 0.9% drop in January. There was a strong 7.5% MoM gain in SA CTKs. The Asia-North America market benefitted the most, with its SA CTKs rising by 4.3% MoM in February. That said, they were still 1.0% below the levels of December 2021, and the overall trend is flat (**Chart 6**).

Chart 6: SA int'l CTKs by route (segment-based)



Source: IATA Economics, IATA Monthly Statistics by Route

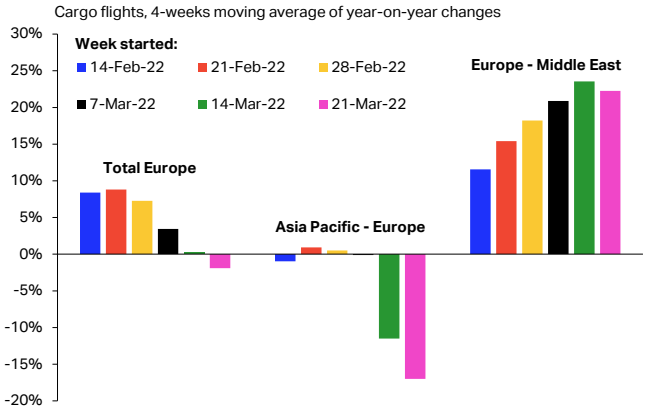
For African airlines, international CTKs rose by 4.7% YoY, below the 11.3% gain recorded in January.

International CTKs of airlines in Asia Pacific grew 3.3% YoY in February, down from 6.1% in January (4.8% for the two months combined) and down from 16.5% in December 2021. SA CTKs rose by 10.1% MoM in February, but more tellingly, they fell by 4.3% when averaging January and February, versus December 2021.

In Europe in February, airlines posted a 2.2% YoY increase in their international CTKs. SA CTKs however, were down 0.1% MoM in February - the only region without any clear growth in that metric, most likely because of the impact of the conflict in Eastern Europe. Seasonally adjusted CTKs on the Asia-Europe route – one of the most impacted by the conflict – fell by 2% MoM in February. Within Europe, SA CTKs decreased by 4.3% MoM, extending a downward trend that started in mid-2021. Further weakness is to be expected in March.

This is confirmed by dedicated cargo flights between Asia and Europe, which declined late-March to 17.0% below the levels a year prior (on a rolling 4-weeks average basis and using data from FR24). International flights to and from Russia were down 83.6% YoY in the week started 21 March (they were up 11.1% in late February) on the same basis. Domestic flights in Russia were down 27.1% YoY in late-March. Overall, dedicated cargo flights to, from and within Europe eased to 1.9% below 2021 levels in the last week of data (**Chart 7**).

Chart 7: SA int'l CTKs by route (segment-based)



Source: IATA Economics using data provided under licence by FlightRadar24

Carriers registered in the Middle East saw their international CTKs drop 5.4% below 2021 levels in February, slightly worse than the January outcome (4.3%). SA volumes were flat but have generally trended downwards over the past six months or so. Recently though, there are signs of improvement in the dedicated cargo flights data, partly because the region is likely to benefit from traffic being redirected to avoid flying over Russia.

IATA Economics
economics@iata.org
6 April 2022

Air cargo market in detail - February 2022

	World share [1]	February 2022 (% year-on-year)				% year-to-date			
		CTK	ACTK	CLF (%-pt)[2]	CLF (level)[3]	CTK	ACTK	CLF (%-pt)[2]	CLF (level)[3]
TOTAL MARKET	***100.0%***	**2.9%**	**12.5%**	**-4.9%**	**53.2%**	**2.7%**	**11.9%**	**-4.8%**	**53.6%**
Africa	*1.9%*	4.6%	8.2%	-1.7%	50.2%	8.0%	11.3%	-1.5%	49.1%
Asia Pacific	*32.4%*	3.0%	15.5%	-7.1%	59.2%	4.4%	14.0%	-5.5%	60.0%
Europe	*22.9%*	2.2%	10.0%	-4.8%	63.6%	4.3%	14.0%	-5.7%	60.9%
Latin America	*2.2%*	21.2%	18.9%	0.9%	47.6%	16.3%	15.3%	0.4%	44.6%
Middle East	*13.4%*	-5.3%	7.2%	-7.0%	52.9%	-4.8%	6.6%	-6.3%	52.2%
North America	*27.2%*	6.1%	13.4%	-3.0%	42.9%	1.5%	10.7%	-4.1%	44.9%
International	***87.2%***	**2.5%**	**8.9%**	**-3.8%**	**61.3%**	**2.9%**	**9.9%**	**-4.1%**	**60.1%**
Africa	*1.9%*	4.7%	8.6%	-1.9%	50.8%	8.0%	11.7%	-1.7%	49.9%
Asia Pacific	*29.5%*	3.3%	11.8%	-5.7%	69.1%	4.8%	12.2%	-4.9%	68.7%
Europe	*22.5%*	2.2%	10.0%	-5.0%	65.7%	4.3%	14.2%	-5.9%	62.9%
Latin America	*1.8%*	21.9%	13.9%	3.9%	58.9%	16.8%	12.5%	2.0%	54.9%
Middle East	*13.4%*	-5.4%	7.3%	-7.1%	53.4%	-4.8%	6.7%	-6.4%	52.6%
North America	*18.1%*	5.5%	4.9%	0.3%	54.3%	2.1%	4.5%	-1.2%	53.2%

[1]% of industry CTKs in 2021 [2]Year-on-year change in load factor [3]Load factor level

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

Air cargo market - 2022 vs. 2019

	World share [1]	February 2022 (% ch vs the same month in 2019)				Year-to-date (% ch vs the same period in 2019)			
		CTK	ACTK	CLF (%-pt)[2]	CLF (level)[3]	CTK	ACTK	CLF (%-pt)[2]	CLF (level)[3]
TOTAL MARKET	***100.0%***	**11.9%**	**-5.6%**	**8.3%**	**53.2%**	**8.1%**	**-7.3%**	**7.7%**	**53.6%**
International	*87.2%*	12.4%	-7.3%	10.7%	61.3%	9.0%	-8.6%	9.7%	60.1%

[1]% of industry CTKs in 2021 [2]Change in load factor vs same period in 2019 [3]Load factor level

	World share [1]	February 2022 (% ch vs the same month in 2019)				Year-to-date (% ch vs the same period in 2019)			
		CTK	ACTK	CLF (%-pt)[2]	CLF (level)[3]	CTK	ACTK	CLF (%-pt)[2]	CLF (level)[3]
TOTAL MARKET	***100.0%***	**11.9%**	**-5.6%**	**8.3%**	**53.2%**	**8.1%**	**-7.3%**	**7.7%**	**53.6%**
Africa	*1.9%*	34.5%	-4.3%	14.5%	50.2%	27.2%	-8.1%	13.6%	49.1%
Asia Pacific	*32.4%*	10.6%	-14.6%	13.5%	59.2%	4.8%	-15.7%	11.7%	60.0%
Europe	*22.9%*	6.2%	-11.1%	10.4%	63.6%	6.0%	-10.0%	9.2%	60.9%
Latin America	*2.2%*	-0.9%	-32.0%	14.9%	47.6%	-3.4%	-30.6%	12.6%	44.6%
Middle East	*13.4%*	3.2%	-8.6%	6.1%	52.9%	2.7%	-10.3%	6.6%	52.2%
North America	*27.2%*	24.2%	14.3%	3.4%	42.9%	17.6%	10.0%	2.9%	44.9%
International	***87.2%***	**12.4%**	**-7.3%**	**10.7%**	**61.3%**	**9.0%**	**-8.6%**	**9.7%**	**60.1%**
Africa	*1.9%*	36.4%	-1.2%	14.0%	50.8%	28.7%	-5.6%	13.3%	49.9%
Asia Pacific	*29.5%*	13.8%	-11.8%	15.6%	69.1%	8.6%	-13.4%	13.9%	68.7%
Europe	*22.5%*	6.3%	-11.2%	10.8%	65.7%	6.0%	-10.0%	9.5%	62.9%
Latin America	*1.8%*	-0.7%	-32.6%	18.9%	58.9%	-3.4%	-30.3%	15.3%	54.9%
Middle East	*13.4%*	3.2%	-8.8%	6.2%	53.4%	2.7%	-10.4%	6.7%	52.6%
North America	*18.1%*	26.9%	10.6%	7.0%	54.3%	19.3%	6.1%	5.9%	53.2%

[1]% of industry CTKs in 2021 [2]Change in load factor vs same period in 2019 [3]Load factor level

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

https://financebuzz.com/monthly-income-spent-on-gas

How Much of a Driver's Monthly Income is Spent on Gas? [State-by-State Study]

Using recent data from the U.S. Department of Transportation, U.S. Census Bureau, and other sources, FinanceBuzz found how much of the average U.S. driver's monthly income is spent on gas.

Last updated April 6, 2022 | By Ben Walker, CEPF | Edited By Melinda Sineriz

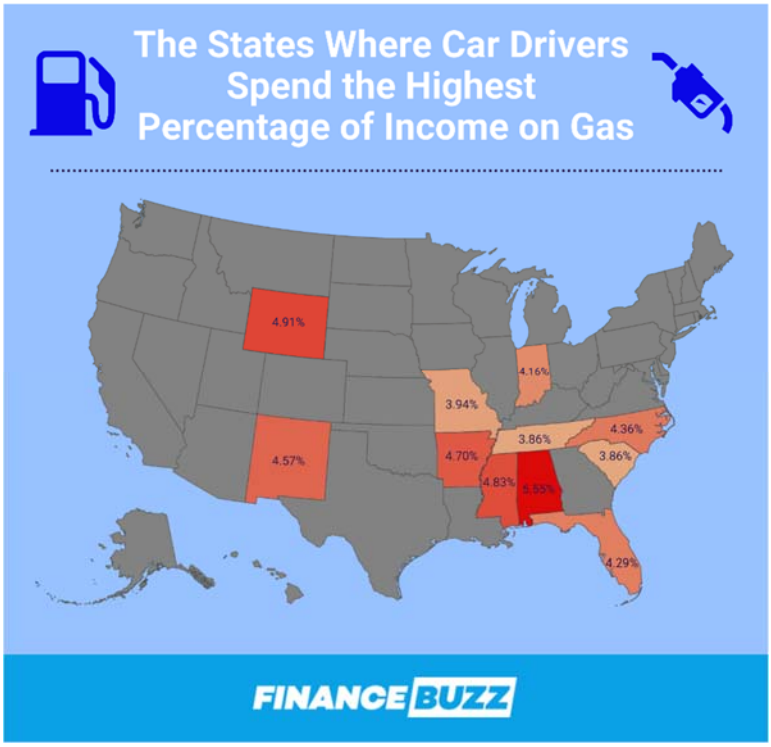
New commuting habits and gas tax holidays look to ease the burden of rising gas prices across the country. But many Americans have to rely on their vehicle as their primary mode of transportation, and planning for summer road trip expenses is looking bleak.

By finding how much of their monthly income the average U.S. driver spends on gas, we were able to see which areas nationwide have the largest fuel burdens and which offer the best value. FinanceBuzz also found the states where drivers pay the highest and lowest percentage of their monthly income into their gas tank.

Key findings

- The average U.S. car driver spends 2.24% of their monthly income on their gas tank, compared to the average U.S. pickup truck and SUV driver who spends 3.12% of their monthly income.
- 6 of the 10 states that spend the highest percentage of their monthly income on gas are in the South. Alabama residents pay the most, though Wyoming residents follow closely behind.
- Drivers in Washington, D.C., New York, and Alaska pay the lowest percentage of their monthly income into their gas tanks. Car owners in Washington, D.C. spend just 0.73% of their income on gas.

States where drivers spend the highest percentage of their income on gas


The States Where Car Drivers Spend the Highest Percentage of Income on Gas
4.91%
4.16%
3.94%
4.36%
3.86%
4.70%
3.86%
4.57%
4.83%
5.55%
4.29%
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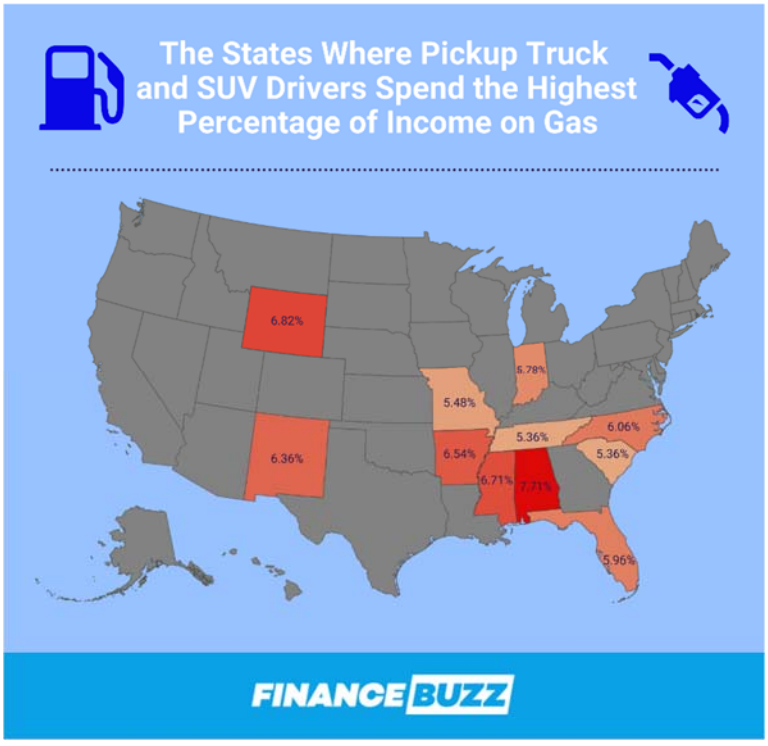
The States Where Pickup Truck and SUV Drivers Spend the Highest Percentage of Income on Gas
6.82%
5.78%
5.48%
5.36%
6.06%
6.54%
5.36%
6.36%
6.71%
7.71%
5.96%
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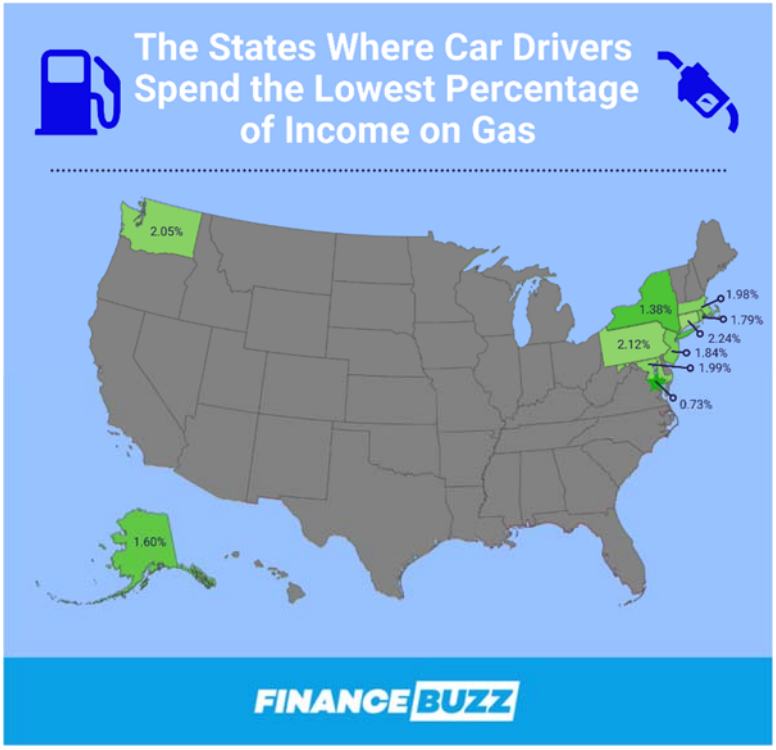
Ranking	State	% of monthly income car drivers spend on gas	% of monthly income pickup/SUV drivers spend on gas
1	Alabama	5.55%	7.71%
2	Wyoming	4.91%	6.82%
3	Mississippi	4.83%	6.71%
4	Arkansas	4.70%	6.54%
5	New Mexico	4.57%	6.36%
6	North Carolina	4.36%	6.06%
7	Florida	4.29%	5.96%
8	Indiana	4.16%	5.78%
9	Missouri	3.94%	5.48%
t-10	Tennessee/South Carolina	3.86%	5.36%

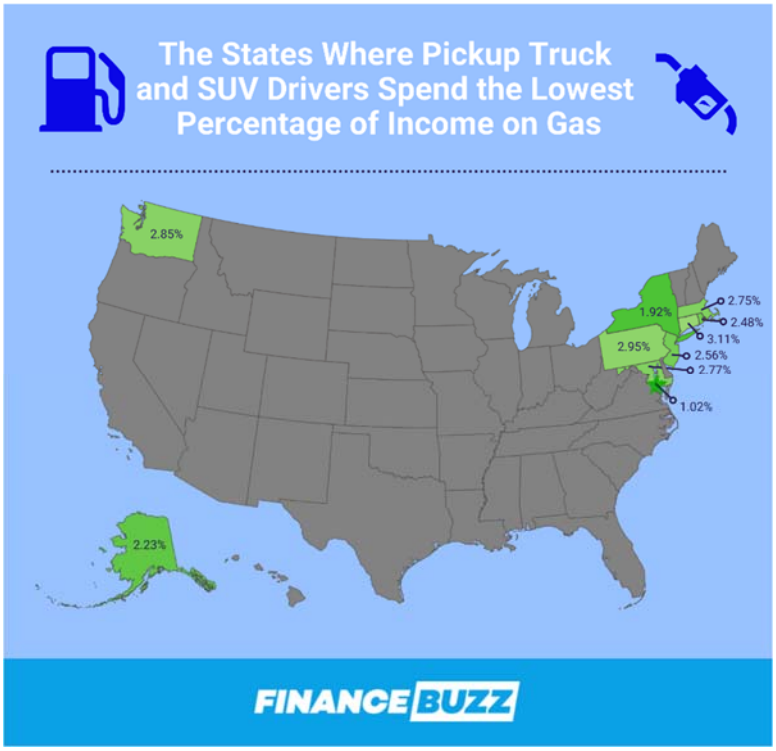
The Southern region of the U.S. accounts for 6 of the top 10 states where drivers spend the highest percentage of their income on gas. These states are Florida, Alabama, Mississippi, North Carolina, Arkansas, and Tennessee.

Overall, Alabama drivers pay the most while drivers in Wyoming follow closely behind. The average Alabama resident travels 1,087.72 miles per month, ranking third among all states in terms of the most vehicle miles traveled.

It's worth noting that Alabama also has one of the ten lowest monthly incomes in the country ($3,652). Mississippi ($3,354), Arkansas ($3,421), and New Mexico ($3,519) residents have the lowest monthly incomes in the U.S.

States where drivers spend the lowest percentage of their income on gas





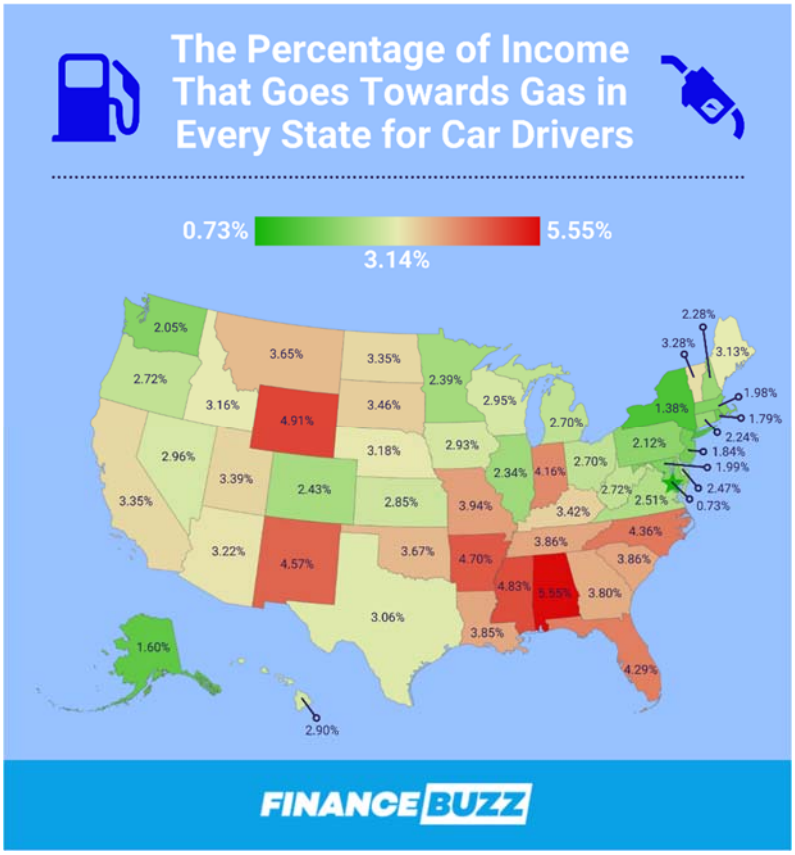
Ranking	State	% of monthly income car drivers spend on gas	% of monthly income pickup/SUV drivers spend on gas
1	District of Columbia	0.73%	1.02%
2	New York	1.38%	1.92%
3	Alaska	1.60%	2.23%
4	Rhode Island	1.79%	2.48%
5	New Jersey	1.84%	2.56%
6	Massachusetts	1.98%	2.75%
7	Maryland	1.99%	2.77%
8	Washington	2.05%	2.85%
9	Pennsylvania	2.12%	2.95%
10	Connecticut	2.24%	3.11%

Overall, the average U.S. car driver spends 2.24% of their monthly income on their gas tank. Car drivers in these 10 states are equal to or below this national average.

Drivers in Washington, D.C., New York, and Alaska put the lowest percentage of their monthly income toward gas. Car drivers in Washington, D.C. spend just 0.73% of their income on gas. To put this in perspective, the percentage of their monthly income Alabama car drivers spend on gas is almost 8 times the percentage Washington, D.C. drivers spend on gas.

Washington, D.C. and New York drivers travel some of the fewest miles per month on average. The average miles traveled per person, per month in D.C. is 303.1, while New York is 397.1 miles. Robust public transportation options in these areas could contribute to those low highway mile totals.

Percentage of monthly income the average person spends on gas in every state


The Percentage of Income That Goes Towards Gas in Every State for Car Drivers
0.73%
5.55%
3.14%
2.05%
2.72%
3.16%
3.65%
4.91%
3.35%
3.46%
3.18%
2.39%
2.95%
2.93%
2.70%
2.34%
4.16%
2.70%
2.72%
2.51%
2.12%
1.38%
2.28%
3.28%
3.13%
1.98%
1.79%
2.24%
1.84%
1.99%
2.47%
0.73%
2.96%
3.39%
3.35%
2.43%
2.85%
3.94%
3.42%
3.22%
4.57%
3.67%
4.70%
3.86%
4.36%
3.86%
4.83%
5.55%
3.80%
3.06%
3.85%
4.29%
1.60%
2.90%
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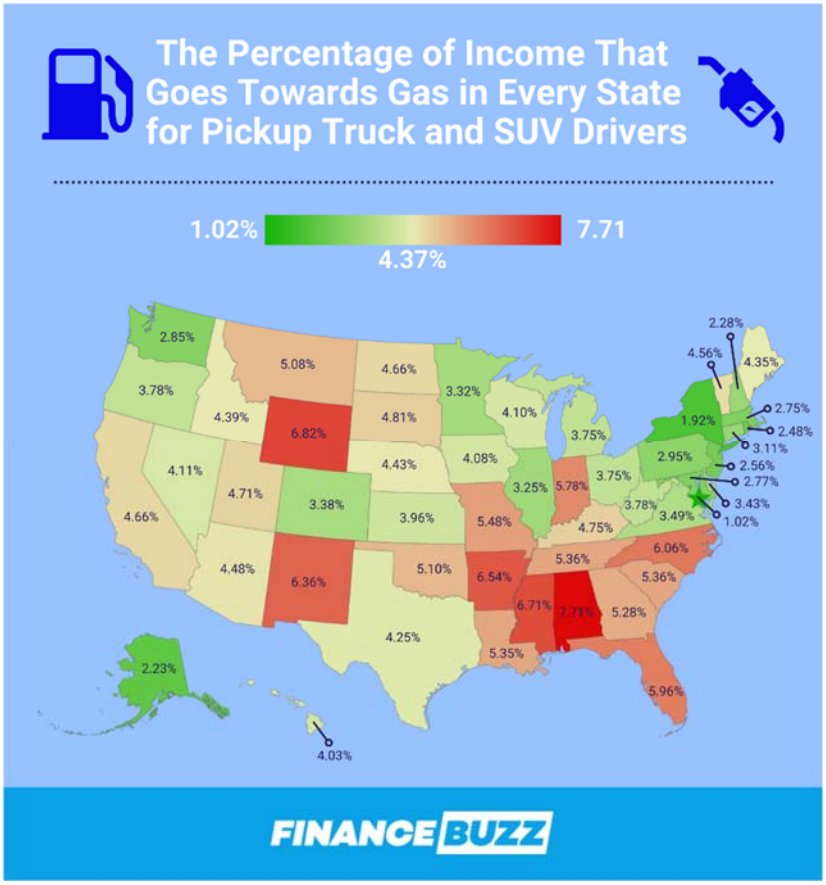

The Percentage of Income That Goes Towards Gas in Every State for Pickup Truck and SUV Drivers
1.02%
7.71
4.37%
2.85%
3.78%
4.39%
5.08%
6.82%
4.66%
4.81%
4.43%
3.32%
4.10%
4.08%
3.75%
3.25%
5.78%
3.75%
3.78%
3.49%
2.95%
1.92%
2.28%
4.56%
4.35%
2.75%
2.48%
3.11%
2.56%
2.77%
3.43%
1.02%
4.11%
4.71%
4.66%
3.38%
3.96%
5.48%
4.75%
4.48%
6.36%
5.10%
6.54%
5.36%
6.06%
5.36%
6.71%
7.71%
5.28%
4.25%
5.35%
2.23%
5.96%
4.03%
FINANCEBUZZ

State	% of monthly income car drivers spend on gas	% of monthly income pickup/SUV drivers spend on gas	Median monthly income	Gas cost per gallon	Average miles traveled per person per month
Alabama	5.55%	7.71%	$3,652	$4.71	1,087.72
Alaska	1.60%	2.23%	$4,673	$4.02	471.78
Arizona	3.22%	4.48%	$3,849	$3.82	820.81
Arkansas	4.70%	6.54%	$3,421	$4.67	871.98
California	3.35%	4.66%	$4,510	$5.88	650.61
Colorado	2.43%	3.38%	$4,440	$3.97	687.43
Connecticut	2.24%	3.11%	$5,197	$4.32	681.65
Delaware	2.47%	3.43%	$4,316	$4.38	616.19
District of Columbia	0.73%	1.02%	$6,529	$4.00	303.10
Florida	4.29%	5.96%	$3,537	$4.12	931.83
Georgia	3.80%	5.28%	$3,868	$3.99	931.30
Hawaii	2.90%	4.03%	$4,198	$5.09	604.70
Idaho	3.16%	4.39%	$3,623	$3.88	745.47
Illinois	2.34%	3.25%	$4,425	$4.39	596.84
Indiana	4.16%	5.78%	$3,846	$4.50	899.41
Iowa	2.93%	4.08%	$3,991	$4.16	711.20
Kansas	2.85%	3.96%	$3,876	$3.77	741.01
Kentucky	3.42%	4.75%	$3,653	$3.97	795.63
Louisiana	3.85%	5.35%	$3,750	$4.04	904.73
Maine	3.13%	4.35%	$3,940	$4.25	732.55
Maryland	1.99%	2.77%	$5,145	$3.80	682.35
Massachusetts	1.98%	2.75%	$5,381	$4.19	643.54
Michigan	2.70%	3.75%	$4,161	$4.14	686.00
Minnesota	2.39%	3.32%	$4,506	$3.92	694.47
Mississippi	4.83%	6.71%	$3,354	$3.77	1,088.38
Missouri	3.94%	5.48%	$3,778	$3.92	960.86
Montana	3.65%	5.08%	$3,659	$4.05	834.70
Nebraska	3.18%	4.43%	$3,930	$4.06	780.52
Nevada	2.96%	4.11%	$3,707	$3.90	711.20
New Hampshire	2.28%	3.16%	$4,591	$3.87	683.11
New Jersey	1.84%	2.56%	$5,197	$4.19	579.50
New Mexico	4.57%	6.36%	$3,519	$4.20	969.06
New York	1.38%	1.92%	$4,709	$4.14	397.10
North Carolina	4.36%	6.06%	$3,707	$5.18	789.22
North Dakota	3.35%	4.66%	$4,161	$4.35	811.20
Ohio	2.70%	3.75%	$4,032	$4.00	687.66
Oklahoma	3.67%	5.10%	$3,536	$3.79	867.31
Oregon	2.72%	3.78%	$4,225	$4.72	616.44
Pennsylvania	2.12%	2.95%	$4,279	$4.31	532.27
Rhode Island	1.79%	2.48%	$4,490	$4.22	481.15
South Carolina	3.86%	5.36%	$3,581	$3.95	885.04
South Dakota	3.46%	4.81%	$3,665	$3.93	815.41
Tennessee	3.86%	5.36%	$3,620	$4.02	878.33
Texas	3.06%	4.25%	$3,950	$3.89	786.88
Utah	3.39%	4.71%	$4,141	$4.43	801.44
Vermont	3.28%	4.56%	$4,136	$4.09	839.71
Virginia	2.51%	3.49%	$4,547	$4.21	684.94
Washington	2.05%	2.85%	$4,870	$4.73	533.66
West Virginia	2.72%	3.78%	$3,535	$3.94	616.60
Wisconsin	2.95%	4.10%	$4,117	$4.09	751.65
Wyoming	4.91%	6.82%	$4,151	$4.07	1,267.22
Nationwide Average:	2.24%	3.12%	$5,416	$4.24	725.76

Wyoming, Mississippi, and Alabama are the only states where the average person travels over 1,000 highway miles per month in the U.S. The average miles traveled per person, per month across the U.S. is 725.76 miles. So regardless of the specific state, people are driving, and gas costs are a nationwide issue.

In an effort to reduce gas prices, some states have implemented “gas tax holidays,” which typically involve suspending taxes on gas across the state for a certain period. Maryland, Georgia, and Connecticut were the first states to suspend fuel taxes, but other states are also considering taking action.

For context, Maryland suspended a whopping 36.1-cents-per-gallon tax, which could offer considerable savings for drivers.

Tips to help you save money as a driver

Plans for gas rebates or stimulus programs to help address soaring costs are underway on both federal and state levels. California, Georgia, Hawaii, Idaho, Indiana, Kansas, Kentucky, Maine, Minnesota, New Jersey, New Mexico, New York, Pennsylvania, and Virginia have approved or have pending plans for rebate or stimulus payments.

But whether you receive a gas rebate or stimulus check, here are several ways to save money as a driver:

- Save on car insurance: To save money on car insurance, do your research and shop around. You could find a deal if you consider the best car insurance companies.
- Utilize credit cards: Many credit cards offer valuable rewards on your purchases, including at gas stations. Reward yourself when you fill up your tank when you use the best gas credit cards.
- Use helpful apps: Certain apps, including GasBuddy, could help you save money on gas or in other ways. Check out these budgeting apps to help you save some cash.

Methodology

FinanceBuzz used the most recent data from the U.S. Department of Transportation (January 2022) to find the total number of road miles traveled by all people in each state. We then divided that number by each state's population, using the most recent data from the U.S. Census Bureau to find the average number of vehicle miles traveled per person in a month by state. We used AAA data collected on 3/24/22 to find the average cost for a gallon of regular gasoline in each state. We used the most recent data from the Bureau of Transportation Statistics (2020) to determine the average fuel efficiency of cars and trucks. We found the median annual income for full-time, year-round workers in every state using the most recent data from the U.S. Census Bureau, then divided that by 12 to find the median monthly income. Each state's average vehicle miles traveled was then divided by the average fuel economy for cars (25.3 mpg) and trucks (18.2 mpg) to determine the number of gallons of gasoline needed to travel that distance by vehicle type. That number was then multiplied by the average cost for a gallon of gas to determine how much the average person spends per month to travel the average number of vehicle miles traveled in each state for both cars and trucks. The average monthly cost for gas in each state was then divided by the median monthly income per state to determine the percentage of income that people spend on gas in each state.

http://www.twdb.texas.gov/newsmedia/drought/doc/weekly_drought_report.pdf

Water Weekly

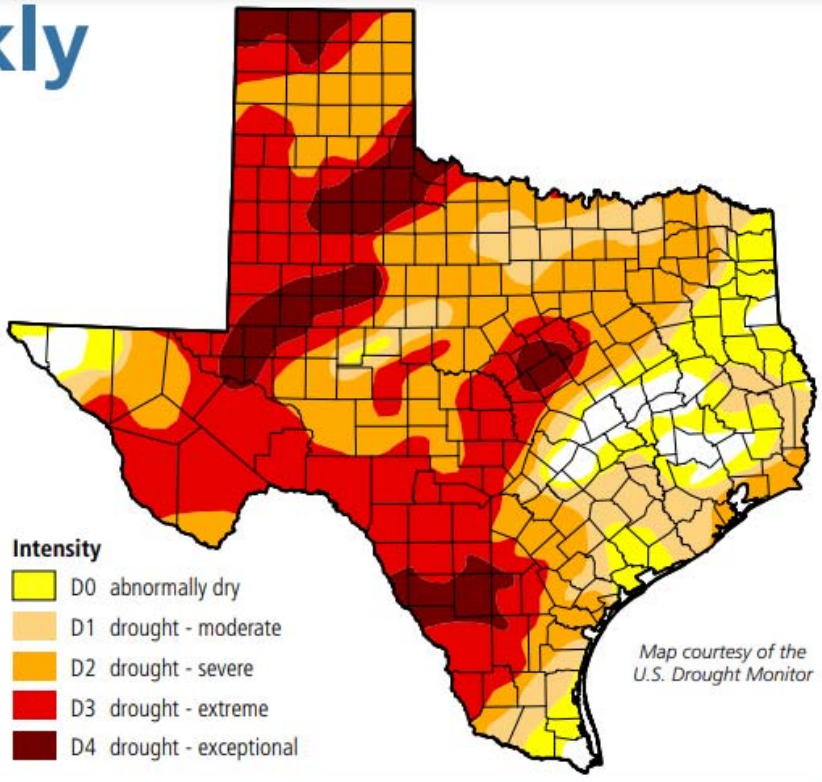
For the week of 04/11/22

Water conditions

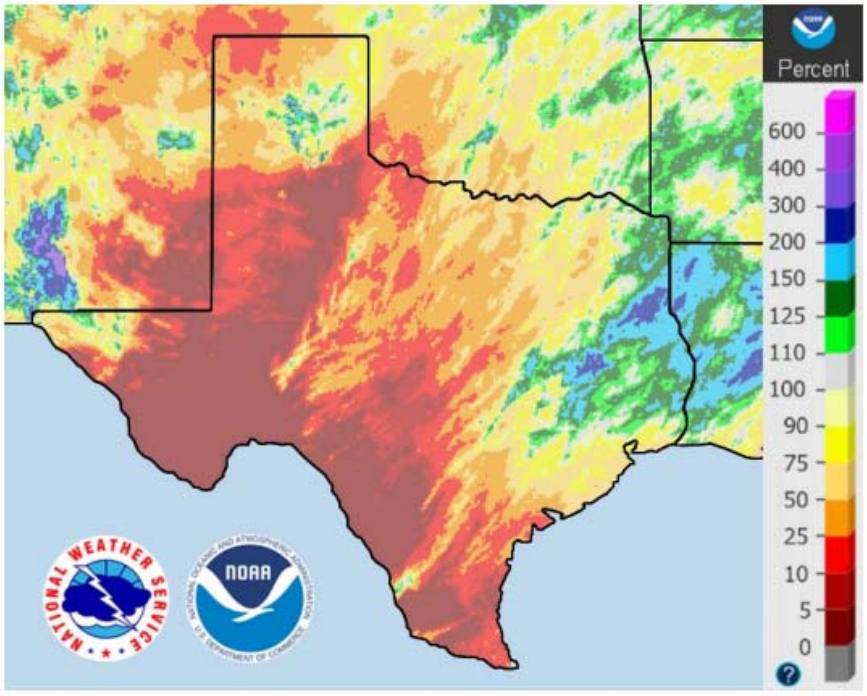
The latest drought map for conditions as of April 5 shows overall improvement compared to the previous week. Recent rains have brought some relief to areas in north central and northeast Texas. In the remainder of the state, drought degradation has continued to outpace drought improvements.

Drought conditions

- 85% now
- 88% a week ago
- 80% three months ago
- 74% a year ago



Map courtesy of the U.S. Drought Monitor



March precipitation

Precipitation was less than half of normal for more than half the state in March. Statewide, rainfall in March was below normal for the seventh consecutive month, making September 2021 to March 2022 the driest September through March since 1967 and the eighth driest such period in 127 years.

Map courtesy of the National Weather Service

Written by Dr. Mark Wentzel *— Dr. Mark Wentzel is a hydrologist in the TWDB's Office of Water Science and Conservation.*

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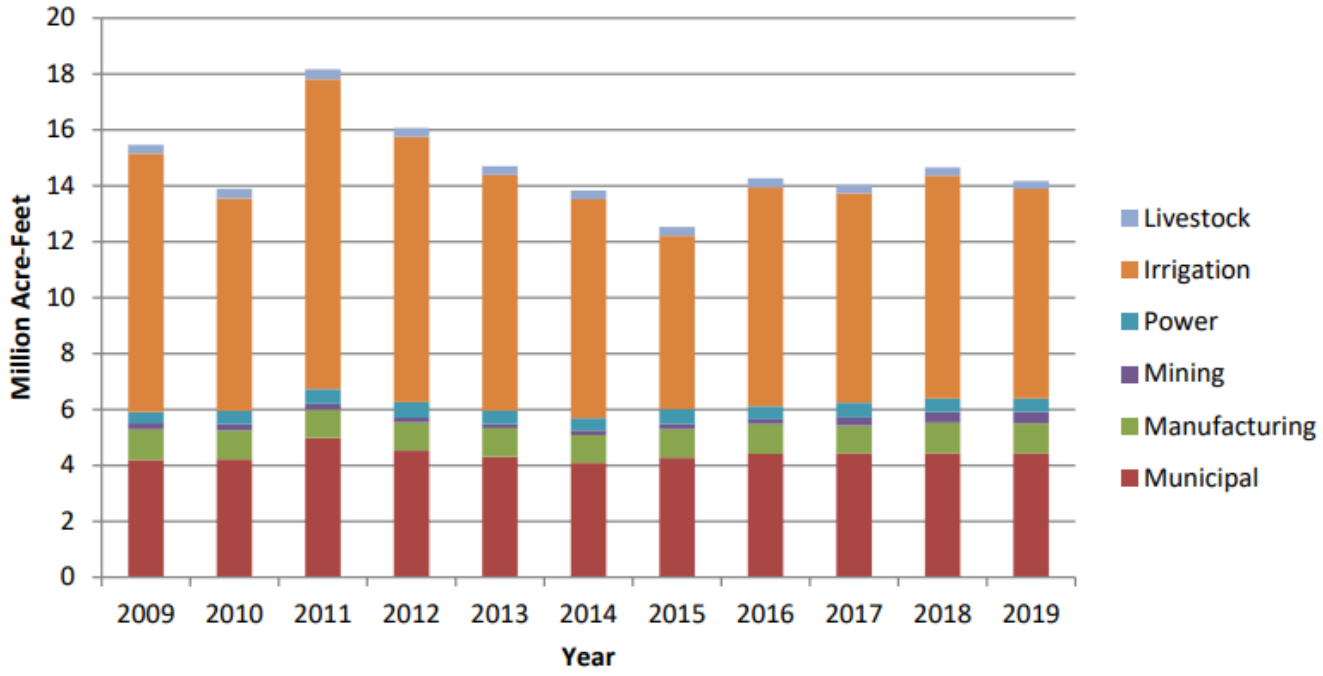
2019 Estimated Annual Statewide Water Use

Total estimated water use for 2019 (including reported reuse) was about 14.17 million acre-feet *(1 acre-foot = 325,851 gallons)* and was down from 2018 which was estimated at about 14.66 million acre-feet. The total 2019 estimated municipal water use slightly decreased to 4.42 million acre-feet compared to 4.44 million acre-feet in 2018. Estimated irrigation water use decreased to 7.50 million acre-feet compared to 7.97 million acre-feet in 2018. Below is a breakdown of the categorical estimated uses for 2019. Irrigation water use **(53%)** topped the largest water use category in the State in 2019 with an estimated 7.50 million acre-feet. Municipal water use **(31%)**, similar to 2018, was the second largest water use category with an estimated 4.42 million acre-feet. Manufacturing **(8%)**, Power **(3%)**, Livestock **(2%)**, and Mining **(3%)** estimated water use collectively comprised about 2.25 million acre-feet.



Source: Texas Water Development Board

Quinnipiac Poll
UNIVERSITY

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FOR RELEASE: APRIL 13, 2022

74% OF AMERICANS THINK WORST OF WAR IN UKRAINE IS YET TO COME, QUINNIPIAC UNIVERSITY NATIONAL POLL FINDS; MORE THAN 8 IN 10 THINK VLADIMIR PUTIN IS A WAR CRIMINAL

As the world witnesses the atrocities in Ukraine committed by Russian troops, the vast majority of Americans (74 percent) think the worst of the war is yet to come, while 11 percent think the worst of the war is over, according to a Quinnipiac (KWIN-uh-pea-ack) University national poll of adults released today.

BIDEN

Thirty-nine percent of Americans approve of President Joe Biden's handling of the response to Russia's invasion of Ukraine, while 48 percent disapprove.

While 33 percent of Americans approve of the way President Biden is handling his job, 54 percent disapprove with 13 percent not offering an opinion. Biden's 33 percent job approval ties the low that he received in a Quinnipiac University poll on January 12, 2022 when his job approval rating was a negative 33 – 53 percent.

In today's poll, Democrats approve (76 – 12 percent) of Biden's job performance, while independents disapprove (56 – 26 percent) and Republicans disapprove (94 – 3 percent).

Among registered voters, 35 percent approve of Biden's job performance, while 55 percent disapprove with 10 percent not offering an opinion. Biden's 35 percent job approval among registered voters ties the low that he received in a Quinnipiac University poll on January 12, 2022 when his job approval rating was a negative 35 – 54 percent.

PUTIN

More than 8 in 10 Americans (82 percent) think that Russian President Vladimir Putin is a war criminal, while 10 percent think he is not a war criminal.

Roughly 7 in 10 (71 percent) think Putin ordered Russian troops to kill civilians in Ukraine, while 14 percent think he did not.

"With thousands dead in Ukraine and the grim belief that the barbarity has just begun, Americans label Putin a killer who directed his troops to do the unthinkable, cut down non-combatants," said Quinnipiac University Polling Analyst Tim Malloy.

U.S. ROLE IN UKRAINE

Roughly two thirds of Americans (68 percent) think the United States has a moral responsibility to do more to stop the killing of civilians in Ukraine, while 24 percent do not think the United States has a moral responsibility to do more to stop the killing of civilians in Ukraine.

Democrats say 77 – 14 percent, Republicans say 67 – 25 percent, and independents say 66 – 28 percent that the United States has a moral responsibility to do more to stop the killing of civilians in Ukraine.

About three-quarters of Americans (74 percent) think the United States has a moral responsibility to help refugees fleeing Ukraine, while 21 percent do not think the United States has a moral responsibility to help refugees fleeing Ukraine.

Democrats say 88 – 11 percent, Republicans say 66 – 27 percent, and independents say 75 – 21 percent that the United States has a moral responsibility to help refugees fleeing Ukraine.

A slight majority of Americans (52 percent) say the United States should do more to support Ukraine, but not if it means increasing the risk of the United States getting into a war with Russia, while 19 percent say the United States should do more to support Ukraine, even if it means increasing the risk of the United States getting into a war with Russia, and 22 percent say the United States is already doing enough to support Ukraine.

"The heartbreaking images from 4,000 miles away leave Americans with a longing to do more, for those fleeing the Russian onslaught, and for those staying to fight. But the moral outrage stops at the water's edge when it comes to committing the U.S. military to the fight," added Malloy.

SANCTIONS

Americans are divided on how effective sanctions against Russia will be in pressuring Russia to end its war in Ukraine as 49 percent think they will be very effective (9 percent) or somewhat effective (40 percent), while 48 percent think they will not be too effective (25 percent) or not effective at all (23 percent).

UNITED NATIONS

While 44 percent of Americans say they have a lot of confidence (9 percent) or some confidence (35 percent) in the United Nations to help achieve peace in Ukraine, 53 percent say they have not too much confidence (22 percent) or not much confidence at all (31 percent).

ACCOUNTABILITY

Only 34 percent of Americans say they are very confident (9 percent) or somewhat confident (25 percent) that Russia will be held accountable for the killing of civilians in Ukraine, while 64 percent say they are not so confident (33 percent) or not confident at all (31 percent).

1,412 U.S. adults nationwide were surveyed from April 7th – 11th with a margin of error of +/- 2.6 percentage points.

The Quinnipiac University Poll, directed by Doug Schwartz, Ph.D. since 1994, conducts independent, non-partisan national and state polls on politics and issues. Surveys adhere to industry best practices and are based on random samples of adults using random digit dialing with live interviewers calling landlines and cell phones.

Visit poll.qu.edu or www.facebook.com/quinnipiacpoll
Email poll@qu.edu, or follow us on Twitter @QuinnipiacPoll.

1. Do you approve or disapprove of the way Joe Biden is handling his job as president?

	ADULTS						WHITE 4 YR COLL DEG	
	Tot	Rep	Dem	Ind	Men	Wom	Yes	No
Approve	33%	3%	76%	26%	29%	37%	52%	20%
Disapprove	54	94	12	56	59	50	42	67
DK/NA	13	4	13	18	12	13	6	13

	AGE IN YRS				WHITE				
	18-34	35-49	50-64	65+	Men	Wom	Wht	Blk	Hsp
Approve	21%	36%	35%	48%	29%	32%	31%	63%	26%
Disapprove	58	52	58	46	63	56	59	25	54
DK/NA	21	12	7	6	8	12	10	12	20

		FOLLOWING NEWS ABOUT INVASION OF UKRAINE Q3		
	Mltry Hshld	Very closely	Somewhat closely	NotToo closely
Approve	32%	37%	34%	16%
Disapprove	59	58	50	51
DK/NA	9	5	16	33

1a. Do you approve or disapprove of the way Joe Biden is handling his job as president? COMBINED WITH: (If approve/disapprove q1) Do you strongly or somewhat approve/disapprove?

	ADULTS						WHITE 4 YR COLL DEG	
	Tot	Rep	Dem	Ind	Men	Wom	Yes	No
Approve strongly	18%	1%	46%	11%	14%	21%	30%	11%
Approve smwht	14	1	30	14	14	15	21	9
Disapprove smwht	11	9	6	13	11	11	7	10
Disapprove strongly	43	83	6	42	48	39	35	56
DK/NA	14	5	13	19	13	15	7	13

	AGE IN YRS				WHITE				
	18-34	35-49	50-64	65+	Men	Wom	Wht	Blk	Hsp
Approve strongly	7%	13%	23%	33%	15%	20%	17%	33%	12%
Approve smwht	14	21	11	14	14	12	13	29	12
Disapprove smwht	23	9	7	3	10	8	9	13	13
Disapprove strongly	35	41	51	42	52	47	49	11	41
DK/NA	22	16	8	7	9	13	11	14	22

		FOLLOWING NEWS ABOUT INVASION OF UKRAINE Q3		
	Mltry Hshld	Very closely	Somewhat closely	NotToo closely
Approve strongly	17%	27%	11%	4%
Approve smwht	15	10	22	12
Disapprove smwht	10	7	14	17
Disapprove strongly	48	51	36	32
DK/NA	9	6	17	36

2. Do you approve or disapprove of the way Joe Biden is handling the response to Russia's invasion of Ukraine?

	ADULTS						WHITE 4 YR COLL DEG	
	Tot	Rep	Dem	Ind	Men	Wom	Yes	No
Approve	39%	10%	73%	36%	36%	41%	57%	30%
Disapprove	48	80	13	48	51	45	38	58
DK/NA	14	10	13	15	13	14	6	12

	AGE IN YRS				WHITE				
	18-34	35-49	50-64	65+	Men	Wom	Wht	Blk	Hsp
Approve	32%	37%	40%	49%	38%	39%	39%	64%	30%
Disapprove	45	49	53	43	54	49	51	24	48
DK/NA	23	14	7	8	8	12	10	12	22

		FOLLOWING NEWS ABOUT INVASION OF UKRAINE Q3		
	Mltry Hshld	Very closely	Somewhat closely	NotToo closely
Approve	39%	43%	40%	19%
Disapprove	50	53	47	30
DK/NA	11	4	13	51

3. How closely have you been following news about Russia's invasion of Ukraine; very closely, somewhat closely, or not too closely?

	ADULTS						WHITE 4 YR COLL DEG	
	Tot	Rep	Dem	Ind	Men	Wom	Yes	No
Very closely	50%	52%	51%	50%	54%	47%	62%	51%
Somewhat closely	36	35	38	36	34	39	32	36
Not too closely	13	12	11	14	12	14	6	13
DK/NA	-	-	-	-	1	-	-	1

	AGE IN YRS				WHITE				
	18-34	35-49	50-64	65+	Men	Wom	Wht	Blk	Hsp
Very closely	37%	46%	56%	63%	59%	51%	55%	43%	44%
Somewhat closely	44	39	35	29	32	36	34	41	41
Not too closely	19	15	8	8	8	12	11	16	15
DK/NA	-	-	-	1	1	-	-	-	-

	Mltry Hshld
Very closely	58%
Somewhat closely	31
Not too closely	10
DK/NA	-

4. Do you think the worst of the war in Ukraine is over or do you think the worst of the war in Ukraine is yet to come?

	ADULTS						WHITE 4 YR COLL DEG	
	Tot	Rep	Dem	Ind	Men	Wom	Yes	No
Worst over	11%	13%	10%	11%	13%	9%	10%	11%
Worst yet to come	74	71	79	75	72	76	76	73
DK/NA	15	16	10	15	15	14	13	16

	AGE IN YRS				WHITE				
	18-34	35-49	50-64	65+	Men	Wom	Wht	Blk	Hsp
Worst over	17%	10%	10%	7%	12%	9%	10%	18%	12%
Worst yet to come	71	72	79	77	73	76	74	70	78
DK/NA	12	18	11	16	15	15	15	11	10

	Mltry Hshld	FOLLOWING NEWS ABOUT INVASION OF UKRAINE Q3 Very closely	Somewhat closely	NotToo closely
Worst over	10%	9%	13%	13%
Worst yet to come	77	80	71	58
DK/NA	14	10	15	28

5. How much confidence do you have in the United Nations to help achieve peace in Ukraine; a lot, some, not too much, or not much at all?

	ADULTS						WHITE 4 YR COLL DEG	
	Tot	Rep	Dem	Ind	Men	Wom	Yes	No
A lot	9%	4%	17%	7%	7%	10%	7%	6%
Some	35	29	43	33	30	39	38	33
Not too much	22	27	21	22	23	21	24	22
Not much at all	31	38	17	35	36	27	31	35
DK/NA	3	1	3	3	3	3	-	3

	AGE IN YRS				WHITE				
	18-34	35-49	50-64	65+	Men	Wom	Wht	Blk	Hsp
A lot	8%	5%	10%	12%	4%	9%	7%	22%	10%
Some	39	32	33	36	30	39	35	43	34
Not too much	27	26	20	18	23	22	23	14	23
Not much at all	24	34	37	30	40	29	34	21	30
DK/NA	1	3	1	3	3	2	2	1	3

	Mltry Hshld	FOLLOWING NEWS ABOUT INVASION OF UKRAINE Q3 Very closely	Somewhat closely	NotToo closely
A lot	6%	10%	8%	9%
Some	34	28	43	37
Not too much	23	20	25	24
Not much at all	35	41	22	24
DK/NA	2	1	3	6

6. How effective do you think sanctions against Russia will be in pressuring Russia to end its war in Ukraine; very effective, somewhat effective, not too effective, or not effective at all?

	ADULTS						WHITE 4 YR COLL DEG	
	Tot	Rep	Dem	Ind	Men	Wom	Yes	No
Very effective	9%	6%	14%	7%	10%	8%	9%	6%
Somewhat effective	40	28	56	40	37	43	50	34
Not too effective	25	32	20	27	25	25	24	28
Not effective at all	23	32	8	24	26	21	16	29
DK/NA	3	1	3	2	2	3	1	3

	AGE IN YRS				WHITE				
	18-34	35-49	50-64	65+	Men	Wom	Wht	Blk	Hsp
Very effective	9%	7%	9%	11%	8%	7%	7%	18%	8%
Somewhat effective	41	39	38	44	36	42	39	41	43
Not too effective	28	24	28	24	28	26	27	24	24
Not effective at all	22	26	23	18	27	23	25	12	24
DK/NA	1	4	1	3	2	2	2	5	1

		FOLLOWING NEWS ABOUT INVASION OF UKRAINE Q3		
	Mltry Hshld	Very closely	Somewhat closely	NotToo closely
Very effective	8%	10%	7%	6%
Somewhat effective	37	41	40	40
Not too effective	28	21	33	23
Not effective at all	26	28	18	24
DK/NA	1	1	2	7

7. Which comes closest to your point of view: A) The United States should do more to support Ukraine, even if it means increasing the risk of the United States getting into a war with Russia. B) The United States should do more to support Ukraine, but not if it means increasing the risk of the United States getting into a war with Russia. C) The United States is already doing enough to support Ukraine.

	ADULTS						WHITE 4 YR COLL DEG	
	Tot	Rep	Dem	Ind	Men	Wom	Yes	No
A) More support/ Even if risk war	19%	23%	18%	17%	21%	18%	23%	21%
B) More support/ But not risk war	52	52	58	51	49	55	63	52
C) Already doing enough to support	22	19	20	25	24	20	11	20
DK/NA	7	6	3	7	6	7	3	7

	AGE IN YRS				WHITE				
	18-34	35-49	50-64	65+	Men	Wom	Wht	Blk	Hsp
A) More support/ Even if risk war	16%	19%	22%	22%	22%	21%	22%	11%	17%
B) More support/ But not risk war	49	52	55	53	55	57	56	50	46
C) Already doing enough to support	28	23	18	18	17	17	17	37	33
DK/NA	6	6	4	7	6	6	6	2	5

		FOLLOWING NEWS ABOUT INVASION OF UKRAINE Q3		
	Mltry Hshld	Very closely	Somewhat closely	NotToo closely
A) More support/ Even if risk war	24%	25%	15%	11%
B) More support/ But not risk war	49	50	57	49
C) Already doing enough to support	22	20	22	30
DK/NA	6	5	6	10

8. Do you think the United States has a moral responsibility to - help refugees fleeing Ukraine, or don't you think so?

	ADULTS						WHITE 4 YR COLL DEG	
	Tot	Rep	Dem	Ind	Men	Wom	Yes	No
Yes/Responsibility	74%	66%	88%	75%	71%	77%	85%	73%
No	21	27	11	21	25	17	13	21
DK/NA	5	7	2	4	4	6	2	6

	AGE IN YRS				WHITE				
	18-34	35-49	50-64	65+	Men	Wom	Wht	Blk	Hsp
Yes/Responsibility	70%	72%	76%	79%	73%	79%	77%	71%	71%
No	27	22	20	14	23	15	19	24	25
DK/NA	4	5	4	7	4	5	5	6	4

		FOLLOWING NEWS ABOUT INVASION OF UKRAINE Q3		
	Mltry Hshld	Very closely	Somewhat closely	NotToo closely
Yes/Responsibility	74%	78%	73%	62%
No	21	17	23	31
DK/NA	5	5	4	8

9. Do you think the United States has a moral responsibility to - do more to stop the killing of civilians in Ukraine, or don't you think so?

	ADULTS						WHITE 4 YR COLL DEG	
	Tot	Rep	Dem	Ind	Men	Wom	Yes	No
Yes/Responsibility	68%	67%	77%	66%	66%	70%	81%	70%
No	24	25	14	28	27	21	15	21
DK/NA	8	8	9	6	7	9	4	9

	AGE IN YRS				WHITE				
	18-34	35-49	50-64	65+	Men	Wom	Wht	Blk	Hsp
Yes/Responsibility	66%	66%	76%	72%	72%	74%	73%	56%	66%
No	30	25	19	17	21	17	19	33	27
DK/NA	4	8	5	11	7	8	7	11	7

		FOLLOWING NEWS ABOUT INVASION OF UKRAINE Q3		
	Mltry Hshld	Very closely	Somewhat closely	NotToo closely
Yes/Responsibility	71%	76%	65%	49%
No	24	18	26	43
DK/NA	5	7	9	8

10. Do you think Russian President Vladimir Putin is a war criminal, or not?

	ADULTS						WHITE 4 YR COLL DEG	
	Tot	Rep	Dem	Ind	Men	Wom	Yes	No
Yes/War criminal	82%	81%	91%	79%	77%	87%	92%	84%
No	10	14	4	10	12	8	5	10
DK/NA	8	5	5	11	11	6	3	6

	AGE IN YRS				WHITE				
	18-34	35-49	50-64	65+	Men	Wom	Wht	Blk	Hsp
Yes/War criminal	76%	80%	88%	89%	83%	89%	86%	72%	78%
No	13	9	7	6	10	7	8	16	8
DK/NA	11	11	5	5	7	4	5	12	13

		FOLLOWING NEWS ABOUT INVASION OF UKRAINE Q3		
	Mltry Hshld	Very closely	Somewhat closely	NotToo closely
Yes/War criminal	85%	87%	81%	65%
No	8	7	12	13
DK/NA	7	5	7	22

11. Do you think Russian President Vladimir Putin ordered Russian troops to kill civilians in Ukraine, or don't you think so?

	ADULTS						WHITE 4 YR COLL DEG	
	Tot	Rep	Dem	Ind	Men	Wom	Yes	No
Yes/Ordered	71%	74%	83%	66%	63%	79%	78%	74%
No	14	14	6	19	20	8	9	14
DK/NA	15	12	12	15	17	13	13	12

	AGE IN YRS				WHITE				
	18-34	35-49	50-64	65+	Men	Wom	Wht	Blk	Hsp
Yes/Ordered	65%	64%	79%	82%	69%	81%	75%	71%	64%
No	21	15	9	8	18	7	12	14	19
DK/NA	14	21	11	10	13	12	13	15	16

		FOLLOWING NEWS ABOUT INVASION OF UKRAINE Q3		
	Mltry Hshld	Very closely	Somewhat closely	NotToo closely
Yes/Ordered	73%	78%	70%	52%
No	16	11	16	18
DK/NA	11	11	14	30

12. How confident are you that Russia will be held accountable for the killing of civilians in Ukraine; very confident, somewhat confident, not so confident, or not confident at all?

	ADULTS						WHITE 4 YR COLL DEG	
	Tot	Rep	Dem	Ind	Men	Wom	Yes	No
Very confident	9%	9%	11%	7%	9%	10%	4%	6%
Somewhat confident	25	19	33	23	20	29	31	24
Not so confident	33	34	35	33	35	32	40	31
Not confident at all	31	35	21	34	33	29	23	36
DK/NA	2	2	1	2	4	1	2	3

	AGE IN YRS				WHITE				
	18-34	35-49	50-64	65+	Men	Wom	Wht	Blk	Hsp
Very confident	12%	10%	6%	10%	5%	6%	5%	17%	16%
Somewhat confident	25	15	28	30	20	32	26	25	23
Not so confident	33	43	31	30	35	34	34	31	31
Not confident at all	29	28	34	28	37	28	32	24	29
DK/NA	2	4	1	1	4	1	2	2	1

		FOLLOWING NEWS ABOUT INVASION OF UKRAINE Q3		
	Mltry Hshld	Very closely	Somewhat closely	NotToo closely
Very confident	8%	8%	10%	11%
Somewhat confident	20	24	28	19
Not so confident	32	34	34	32
Not confident at all	38	32	27	34
DK/NA	2	2	1	5

https://www.up.com/customers/announcements/customernews/generalannouncements/CN2022-15.html

Status of the Railroad - A Message from Kenny Rocker, EVP, Marketing & Sales

Announcement Number: CN2022-15
Categories: General Announcements
Posted Date: April 11, 2022
To Our Customers,

As we continue to work toward resolving our service challenges, I want to provide another update to you. Over the last few weeks, our network has experienced some setbacks – including numerous service interruptions, crew shortages in select areas and delays to our network – as we have seen our operating inventory continue to climb over the past 60 days. This additional inventory has led to more congestion in yards, an imbalance of our resources, and further slowdown of our operational performance. You deserve transparency when it comes to our service, so I'd like to provide an update on where we stand today and the immediate actions we have and are taking.

Actions Taken

- *Locomotives Supply* – We added 50 locomotives to our active fleet since January and are adding an additional 100 locomotives.
- *Crew Supply* - While the current demand for crews is high, we are facing a tight labor market. As I've noted before, we are recruiting heavily to alleviate crew shortages in certain locations and have modified our recruiting strategies to attract more applicants. We are aggressively hiring and streamlined our onboarding process to get new hires on the job faster. We have 450 employees currently in training to graduate in early summer with more in the pipeline. Additionally, we relocated approximately 80 crew members to support crew demand in specific locations across the system.
- *Operating Inventory* – We are removing 2% to 3% of UP-controlled cars from our network across multiple commodity groups. We are in daily dialogue with our unit train customers to maintain fluidity and reduce their inventories on our system. For intermodal, we are closely monitoring the inland ramps to make sure our supply chain partners have ability to dray their shipments off the ramps.

Next Steps

Despite the actions I mentioned above, the operating inventory levels continue to rise on a daily basis. We are now asking for your help to further reduce the number of active rail cars on our network. We have already identified and notified those customers who can help us manage the current congestion by reducing their rail car inventories. If we do not see reductions to the operating inventory through their voluntary efforts, then we will begin metering traffic after April 18th. This action, along with our other ongoing initiatives, will give us the ability to work through our backlog and improve the service for all our customers. We are actively monitoring the progress of our operating inventory levels and will remain in close contact with you to keep you updated.

Thank You

As always, thank you for your patience, your loyalty and your business. By working together, we will restore service to the level that you expect and deliver a more reliable service product to all our customers.

Sincerely,

Kenny Rocker
Executive Vice President, Marketing & Sales

https://www.cfindustries.com/newsroom/2022/union-pacific-shipping-restrictions

CF Industries: Union Pacific Curtails Fertilizer Shipments, Delaying Deliveries and Preventing New Rail Orders from Being Taken

By: Corporate Communications

April 14, 2022
Company
SHARE

CF Industries Holdings, Inc. (NYSE: CF), a leading global manufacturer of hydrogen and nitrogen products, today informed customers it serves by Union Pacific rail lines that railroad-mandated shipping reductions would result in nitrogen fertilizer shipment delays during the spring application season and that it would be unable to accept new rail sales involving Union Pacific for the foreseeable future. The Company understands that it is one of only 30 companies to face these restrictions.

CF Industries ships to customers via Union Pacific rail lines primarily from its Donaldsonville Complex in Louisiana and its Port Neal Complex in Iowa. The rail lines serve key agricultural areas such as Iowa, Illinois, Kansas, Nebraska, Texas and California. Products that will be affected include nitrogen fertilizers such as urea and urea ammonium nitrate (UAN) as well as diesel exhaust fluid (DEF), an emissions control product required for diesel trucks. CF Industries is the largest producer of urea, UAN and DEF in North America, and its Donaldsonville Complex is the largest single production facility for the products in North America.

“The timing of this action by Union Pacific could not come at a worse time for farmers,” said Tony Will, president and chief executive officer, CF Industries Holdings, Inc. “Not only will fertilizer be delayed by these shipping restrictions, but additional fertilizer needed to complete spring applications may be unable to reach farmers at all. By placing this arbitrary restriction on just a handful of shippers, Union Pacific is jeopardizing farmers’ harvests and increasing the cost of food for consumers.”

On Friday, April 8, 2022, Union Pacific informed CF Industries without advance notice that it was mandating certain shippers to reduce the volume of private cars on its railroad effective immediately. The Company was told to reduce its shipments by nearly 20%. CF Industries believes it will still be able to fulfill delivery of product already contracted for rail shipment to Union Pacific destinations, albeit with likely delays. However, because Union Pacific has told the Company that noncompliance will result in the embargo of its facilities by the railroad, CF Industries may not have available shipping capacity to take new rail orders involving Union Pacific rail lines to meet late season demand for fertilizer.

The application of nitrogen fertilizer is critical to maximizing crop yields. If farmers are unable to secure all the nitrogen fertilizer that they require in the current season because of supply chain disruptions such as rail shipping restrictions, the Company expects yield will be lower. This will likely extend the timeline to replenish global grains stocks. Low global grains stocks continue to support high front month and forward prices for nitrogen-consuming crops, which has contributed to higher food prices.

CF Industries intends to engage directly with the federal government to ask that fertilizer shipments be prioritized so that spring planting is not adversely impacted.

“CF Industries’ North American manufacturing network continues to produce at a high rate to meet the needs of customers, farmers and consumers,” said Will. “We urge the federal government to take action to remove these Union Pacific rail shipment restrictions to ensure this vital fertilizer will be able to reach U.S. farmers when and where they need it.”

About CF Industries Holdings, Inc.

At CF Industries, our mission is to provide clean energy to feed and fuel the world sustainably. With our employees focused on safe and reliable operations, environmental stewardship, and disciplined capital and corporate management, we are on a path to decarbonize our ammonia production network – the world’s largest – to enable green and blue hydrogen and nitrogen products for energy, fertilizer, emissions abatement and other industrial activities. Our nine manufacturing complexes in the United States, Canada, and the United Kingdom, an unparalleled storage, transportation and distribution network in North America, and logistics capabilities enabling a global reach underpin our strategy to leverage our unique capabilities to accelerate the world’s transition to clean energy. CF Industries routinely posts investor announcements and additional information on the Company’s website at www.cfindustries.com and encourages those interested in the Company to check there frequently.

https://www.stb.gov/news-communications/latest-news/pr-22-21/

STB Issues Hearing Notice for Urgent Issues in Freight Rail Service

FOR RELEASE
04/07/2022 (Thursday) [PDF Version]
No. 22-21

Contact:
Michael Booth
202-245-1760
FedRelay 1 (800) 877-8339

Today the Surface Transportation Board announced that it will hold a public hearing on April 26 and April 27, 2022, on recent rail service problems and recovery efforts involving several Class I carriers.

The Board will direct executive-level officials, including operating and human resources officials, of BNSF Railway Company, CSX Transportation, Inc., Norfolk Southern Railway Company, and Union Pacific Railroad Company to appear. The Board will also invite and welcome the attendance of executive-level officials from Canadian National Railway Company, Kansas City Southern Railway Company, and Canadian Pacific Railway Company. Other carriers, rail customers, labor organizations, and other interested parties are welcome to report on recent service issues.

Rail network reliability is essential to the Nation's economy and is a foremost priority of the Board. In recent weeks, the Board has heard informally from a broad range of stakeholders about inconsistent and unreliable rail service. The Board has also received reports from the Secretary of Agriculture and other stakeholders about the serious impact of these service trends on rail users, particularly with respect to shippers of agricultural and energy products. These reports have been validated by the Board's weekly rail service performance data. For these reasons, the Board has determined that the service issues may have reached a level that requires action by the Board, and it is imperative that the Board hear from carriers, rail customers, labor organizations, and other interested persons. Given the serious nature of the service issues reported to the Board, in addition to providing as much visibility as possible to all aspects of the current service issues, the Board expects the information provided at the hearing to inform any potential future Board actions to ameliorate the problems that have been reported.

In announcing the hearing, Board Chairman Martin Oberman said:

"During my time on the Board, I have raised concerns about the primacy Class I railroads have placed on lowering their operating ratios and satisfying their shareholders even at the cost of their customers. Part of that strategy has involved cutting their work force to the bare bones in order to reduce costs. Over the last 6 years, the Class Is collectively have reduced their work force by 29% – that is about 45,000 employees cut from the payrolls. In my view, all of this has directly contributed to where we are today – rail users experiencing serious deteriorations in rail service because, on too many parts of their networks, the railroads simply do not have a sufficient number of employees.

This hearing is not just about where we are but also about where we are going. The Board expects the railroads to explain the actions they will take to fix these issues. The Board will also consider stakeholder views on how it can use its authority—including measures to address emergencies, increase transparency, and promote reliable service—to ameliorate problems on the network."

The public hearing will be held on April 26 and April 27, 2022, beginning at 9:30 a.m. ET each day, in the Hearing Room of the Board's headquarters in Washington, D.C., and will be open for public observation. The hearing will be available for viewing on the Board's website. Any person wishing to speak at the hearing should file with the Board a notice of intent to participate as soon as possible but no later than April 14, 2022. Submission of written testimony by hearing participants is optional but any written testimony or comments should be submitted by April 22, 2022.

Today's hearing notice in Urgent Issues in Freight Rail Service, Docket No. EP 770, may be viewed and downloaded here.

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51193 SERVICE DATE – APRIL 7, 2022
EB

SURFACE TRANSPORTATION BOARD

NOTICE

Docket No. EP 770

URGENT ISSUES IN FREIGHT RAIL SERVICE

Decided: April 7, 2022

AGENCY: Surface Transportation Board.

ACTION: Notice of Public Hearing.

SUMMARY: The Surface Transportation Board (Board) will hold a public hearing on April 26 and 27, 2022, on recent rail service problems and recovery efforts involving several Class I carriers. The hearing will be held in the Hearing Room of the Board's headquarters, located at 395 E Street, S.W., Washington, D.C. 20423-0001. The Board will direct executive-level officials, including operating and human resources officials, of BNSF Railway Company (BNSF), CSX Transportation, Inc. (CSXT), Norfolk Southern Railway Company (NSR), and Union Pacific Railroad Company (UP) to appear to discuss the recent rail service problems, each carrier's ongoing and planned efforts to improve service, and each carrier's estimated timeline for recovery of normal service levels. The Board will also invite and welcome the attendance of executive-level officials, including operating and human resources officials, of Canadian National Railway Company (CN), Kansas City Southern Railway Company (KCS), and Canadian Pacific Railway Company (CP). In addition, the Board will provide other carriers, rail customers, labor organizations, and other interested parties the opportunity to report on recent service issues and service recovery efforts.

DATES: The hearing will be held on April 26 and 27, 2022, beginning at 9:30 a.m. each day, in the Hearing Room of the Board's headquarters and will be open for public observation. The hearing will be available for viewing on the Board's website. Any person wishing to speak at the hearing should file with the Board a notice of intent to participate (identifying the party, proposed speaker, and amount of time requested) as soon as possible but no later than April 14, 2022. Submission of written testimony by hearing participants is optional; any such written testimony, and written comments by any other interested persons, may be submitted by April 22, 2022.

ADDRESSES: All filings should be submitted via e-filing on the Board's website at www.stb.gov. Filings will be posted to the Board's website and need not be served on the other hearing participants, written commenters, or any other party to the proceeding.

FOR FURTHER INFORMATION CONTACT: Nathaniel Bawcombe at (202) 245-0376. Assistance for the hearing impaired is available through the Federal Relay Service at (800) 877-8339.

SUPPLEMENTARY INFORMATION: Rail network reliability is essential to the Nation's economy and is a foremost priority of the Board. In recent weeks, the Board has heard informally from a broad range of stakeholders about inconsistent and unreliable rail service. These challenges include tight car supply and unfilled car orders, delays in transportation for carload and bulk traffic, increased origin dwell time for released unit trains, missed switches, and ineffective customer assistance. Moreover, the Board has received several recent reports, from the Secretary of Agriculture, Senator Shelley Moore Capito, and other stakeholders, about the serious impact of these service trends on rail users, particularly with respect to shippers of agricultural and energy products.[1]

At the same time, the Board has been closely monitoring weekly rail service performance data submitted pursuant to 49 C.F.R. part 1250.[2] The data validate the anecdotal information reported to the Board, as many key performance indicators, such as system average train speed and average number of trains holding per day, suggest performance is below historical norms. While the Board appreciates that the pandemic has caused significant volume fluctuations, which have created great uncertainty and other challenges, these trends demonstrate that service has continued to deteriorate. Since the beginning of 2022, and through the data for the week ending March 25, 2022, there has been no material, sustained decline in trains held per day due to crew or locomotive availability for BNSF, CSXT, NSR, or UP. Recognizing large reductions in railroad employment over the past several years (including prior to the pandemic), as reported to the Board under 49 C.F.R. § 1246.1, and understanding that carriers have reported hiring difficulties—difficulties that are not restricted to the rail industry—the Board is concerned that crew shortages have contributed to these recent service trends and affected carriers' recovery efforts. For these reasons, the Board has determined that the service issues may have reached a level that requires action by the Board, and it is imperative that the Board hear from carriers, rail customers, labor organizations, and other interested persons.

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[1] See Honorable Thomas J. Vilsack, U.S. Dep't of Agric. Letter, Mar. 30, 2022, Reciprocal Switching, EP 711 (Sub-No. 1); Letter from Honorable Shelley Moore Capito, to Board Members Martin J. Oberman, Michelle A. Schultz, Patrick J. Fuchs, Robert E. Primus, & Karen J. Hedlund (Mar. 29, 2022), available at www.stb.gov (open tab "News & Communications" & select "Non-Docketed Public Correspondence"); Letter from the Nat'l Grain & Feed Ass'n, to Board Members Martin J. Oberman, Michelle A. Schultz, Patrick J. Fuchs, Robert E. Primus, & Karen J. Hedlund (Mar. 24, 2022), available at www.stb.gov (open tab "News & Communications" & select "Non-Docketed Public Correspondence"); Letter from SMART-Transp. Div., to Chairman Martin J. Oberman (Apr. 1, 2022), available at www.stb.gov (open tab "News & Communications" & select "Non-Docketed Public Correspondence").

[2] Data collected pursuant to 49 C.F.R. part 1250 is available on the Board's website at https://www.stb.gov/reports-data/rail-service-data/.

Given the serious nature of the service issues reported to the Board, in addition to providing as much visibility as possible to all aspects of the current service issues, the Board expects the information provided at the hearing to inform any potential future Board actions to ameliorate the problems that have been reported.

The Board will hold a public hearing on April 26 and 27, 2022, beginning at 9:30 a.m. each day, at its offices in Washington, D.C., to hear firsthand from senior officials of BNSF, CSXT, NSR, and UP, as well as affected shippers, shipper organizations, and labor organizations, about rail service and efforts to improve service. The Board will direct executive-level officials, including operating and human resources officials, of BNSF, CSXT, NSR, and UP to appear[3] at the hearing to discuss their recent rail service problems and their ongoing and planned efforts to improve service, including detailed plans outlining the steps needed to improve service.[4] The Board will also direct BNSF, CSXT, NSR, and UP to address the extent to which crew shortages, particularly in the context of past employment reductions and current hiring difficulties, may have contributed to these service problems, and their plans, if any, to change and improve their hiring and employee retention policies to alleviate the acute crew shortages that appear to be among the central causes of the current service issues. In addition to the required participation of BNSF, CSXT, NSR, and UP, because the above-discussed problems have also been occurring to some degree on an industry-wide basis, the Board invites and will welcome the attendance of executive-level officials, including operating and human resources officials, of CN, KCS, and CP, and invites any other interested carriers to participate.

The Board also encourages affected rail customers, shipper organizations, labor organizations, and other interested parties to appear at the public hearing to discuss their service concerns and comment on carriers' efforts toward service recovery.[5]

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[3] The Board is directing BNSF, CSXT, NSR, and UP to appear because most recent service issues involve these four carriers. Additionally, other carriers and interested persons are invited to participate. The Board notes that it is prepared to address service problems with respect to any of the Class I carriers, as appropriate.

[4] In response to letters from Chairman Martin J. Oberman dated May 27, 2021, October 18, 2021, and November 23, 2021, Class I carriers have provided the Board with information about their service performance and workforce levels. Chairman Oberman's letters and Class I carriers' responsive letters are available on the Board's website at www.stb.gov (open tab "News & Communications" & select "Non-Docketed Public Correspondence"). While the Board appreciates the information that Class I carriers have provided thus far, the trends discussed above demonstrate that service has continued to deteriorate, and the ongoing service problems and crew shortages indicate that the Class I carriers need to take additional steps to ensure adequate service. Accordingly, BNSF, CSXT, NSR, and UP should prepare to discuss at the hearing, with specificity, their most recent efforts to improve service and their proposed timeline for recovery.

[5] The Board's public hearing is not intended to replace the informal and confidential dispute resolution process facilitated by the Board's Rail Customer and Public Assistance, and stakeholders are encouraged to continue communicating through that office.

BOARD RELEASES AND TRANSCRIPT AVAILABILITY: Decisions and notices of the Board, including this notice, are available on the Board's website at www.stb.gov. The Board will issue a separate notice containing the schedule of appearances. A transcript of the hearing will be posted on the Board's website once it is available.

It is ordered:

1. A public hearing will be held on April 26 and 27, 2022, beginning at 9:30 a.m. each day, in the Hearing Room of the Board's headquarters, located at 395 E Street, S.W., Washington, D.C. 20423-0001.

2. Executive-level officials, including operating and human resources officials, of BNSF, CSXT, NSR, and UP are directed to appear at the public hearing, as discussed above.

3. By April 14, 2022, BNSF, CSXT, NSR, UP and any other person wishing to speak at the hearing shall file with the Board a notice of intent to participate identifying the party, the proposed speaker(s), and the time requested.

4. Written testimony by hearing participants (which is optional) and written comments from any other interested persons may be filed by April 22, 2022.

5. Filings will be posted to the Board's website and need not be served on any hearing participants or other commenters.

6. This decision is effective on its service date.

7. This decision will be published in the Federal Register.

By the Board, Board Members Fuchs, Hedlund, Oberman, Primus, and Schultz.

Inflation Pushes 84% of Americans to Cut Back on Spending
2022-04-12 16:54:02.737 GMT

By Claire Ballentine and Charlie Wells
(Bloomberg) -- The steepest inflation in more than 40 years is rattling budgets across the U.S., fueling changes in spending habits and people's relationships with one another.
About 84% of Americans plan to cut back on spending as a result of higher prices, according to a nationally representative survey conducted by the Harris Poll for Bloomberg News. The biggest cuts involve eating out and impulse purchases, along with driving and experiences like concerts and sports.
With inflation now at 8.5%, the highest since 1981, consumers are having to make some tough choices. Although the job market and economy are on solid footing, wage growth isn't keeping up with prices for everyday items, and consumers are getting pinched from all sides as the Federal Reserve starts raising interest rates.
"The sharp breakdown in the collective consumer mood reflects inflation worries more than anything else," said Jim Baird, chief investment officer for Plante Moran Financial Advisors. "The economy may be slowing, but it's still growing at a solid clip and job creation remains strong. It's the fact that they are watching their income gains disappear and then some in their grocery and gas bills that is disheartening."
More than 70% of respondents said they're feeling the effects of inflation the most in gas prices and groceries. This sentiment was backed by Tuesday's consumer price index data for March, which showed gasoline prices surged 48% and food rose 8.8% from a year earlier. The poll was conducted among a nationally representative sample of 2,100 Americans during two weekends in April, before the inflation report.
Ian Mills in Alexandria, Virginia, is having to drastically alter his grocery shopping because of the higher prices. The 30-year-old who works in the military has three kids, and usually tries to buy fresh produce and organic food, but now he has switched to more canned and frozen goods.
"The health of the economy is affecting our physical health," he said. "It's changed how I approach daily life. There's a lot less money to spend on more frivolous things."
About 40% of Americans say that inflation is causing them to spend less on items that may be good for their health but are more expensive. Millennials are most likely to do this, followed by Gen Z and Gen X.
"If inflation persists, it could be a headwind for consumer spending," said Ross Mayfield, an investment strategy analyst at Robert W. Baird & Co. "As a consumer, it just sucks — there's not a redeeming quality unless you're seeing wage growth keep

up."

Last month, hourly earnings rose 5.6% from a year earlier. That's the most since May 2020, but isn't enough to keep up with inflation. In the Harris Poll survey, only a third of respondents reported receiving a raise due to inflation, and 20% said it wasn't enough. Hard Choices

Spiking prices are also changing Americans' financial relationships with one another.

At a time when the topic dominates headlines, the nightly news, political debates and even "Saturday Night Live," the Harris Poll shows that inflation has become a popular excuse for Americans not to buy or do something, even when cost wasn't actually a factor.

Nearly half of Americans reported using rising prices as a pretext. Strikingly, 51% of high-income households say they have used inflation as an excuse even if higher prices were not actually an issue, compared with just 44% of low-income households. This is despite the fact that lower-income Americans have been squeezed the most by rising prices.

At home, 53% of couples say inflation is prompting them to talk about money more often with their partners. A third say that rising prices have had a negative impact on their relationships.

Price increases are revealing the spending choices Americans are willing to make relative to others as well — and it seems pets rank higher than humans. Some 71% of respondents say they are likely to sacrifice the quality or quantity of spending on goods for themselves due to inflation. That number fell to 56% when it came to people's spouses or partners, and just 48% said they would sacrifice quantity or quality when spending on their animals.

Rising prices largely have a negative effect on Americans' quality of life, yet 57% say they see some upside. Over a third cite cutting back on impulse purchases as a benefit. Around 21% see a benefit in increased pay, while 18% say it makes debts easier to pay off.

That doesn't make their outlook any brighter. Only 27% say they see inflation ending this year. Nearly a third expect it to last into 2023, while 20% say it will continue indefinitely.

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APRIL 12, 2022

10 facts about today's college graduates

BY KATHERINE SCHAEFFER

A San Jose State University graduate prepares for commencement ceremonies with his family in December 2021. (Aric Crabb/MediaNews Group/East Bay Times via Getty Images)

Having a bachelor's degree remains an important advantage in many sectors of the U.S. labor market. College graduates generally out-earn those who have not attended college, and they are more likely to be employed in the first place. At the same time, many Americans say they cannot afford to get a four-year degree – or that they just don't want to.

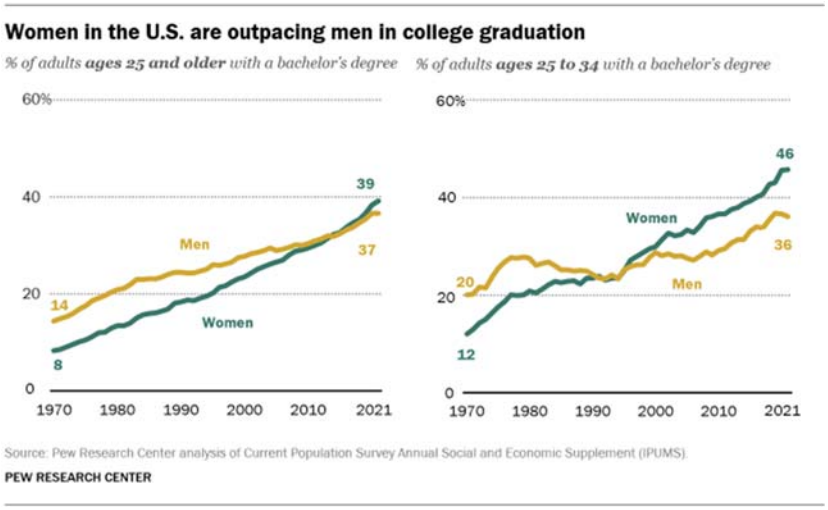
Here are key facts about American college graduates.

How we did this

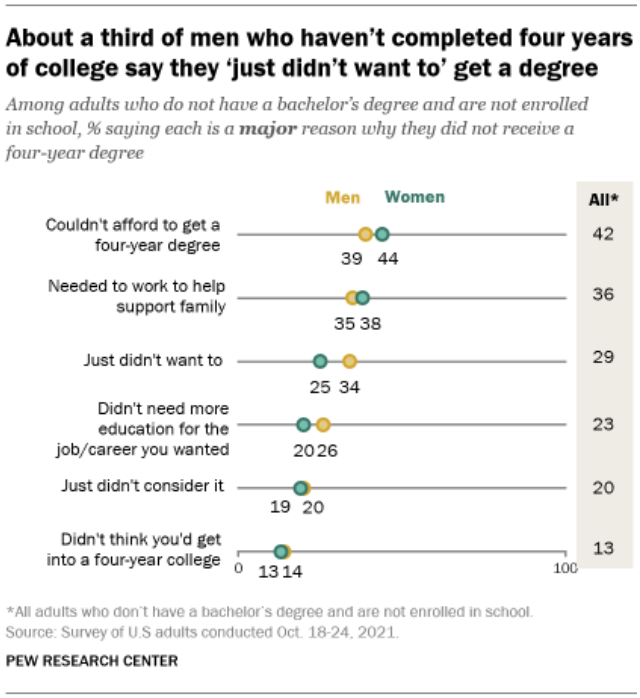
Nearly four-in-ten Americans ages 25 and older have a bachelor's degree, a share that has grown over the last decade. As of 2021, 37.9% of adults in this age group held a bachelor's degree, including 14.3% who also obtained a graduate or professional degree, according to data from the Census Bureau's Current Population Survey. That share is up 7.5 percentage points from 30.4% in 2011.

An additional 10.5% had an associate degree in 2021. About four-in-ten Americans ages 25 and older had a high school diploma with no further education (25.3%) or completed some college but didn't have a degree (14.9%).

In a reversal, women are now more likely than men to graduate from college, according to the Current Population Survey. In 2021, 39% of women ages 25 and older had a bachelor's degree or more education, compared with 37% of men in the same age range. The gap in college completion is even wider among adults ages 25 to 34: 46% of women in this age group have at least a bachelor's degree, compared with 36% of men.



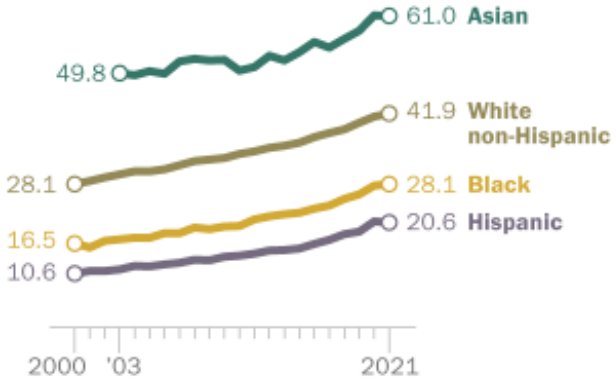
In an [October 2021 Pew Research Center survey] of Americans *without* a degree, 34% of men said a major reason why they have not received a four-year college degree is that they just didn't want to. Only one-in-four women said the same. Men were also more likely to say a major reason they didn't have a four-year degree is that they didn't need more education for the job or career they wanted (26% of men said this vs. 20% of women).



Women (44%) were more likely than men (39%) to say not being able to afford college was a major reason they don't have a bachelor's degree. Men and women were about equally likely to say a major impediment was needing to work to help support their family.

Since 2000, the share of Americans with a bachelor's degree has increased across all races and ethnicities

% of U.S. adults ages 25 and older who have completed a bachelor's degree



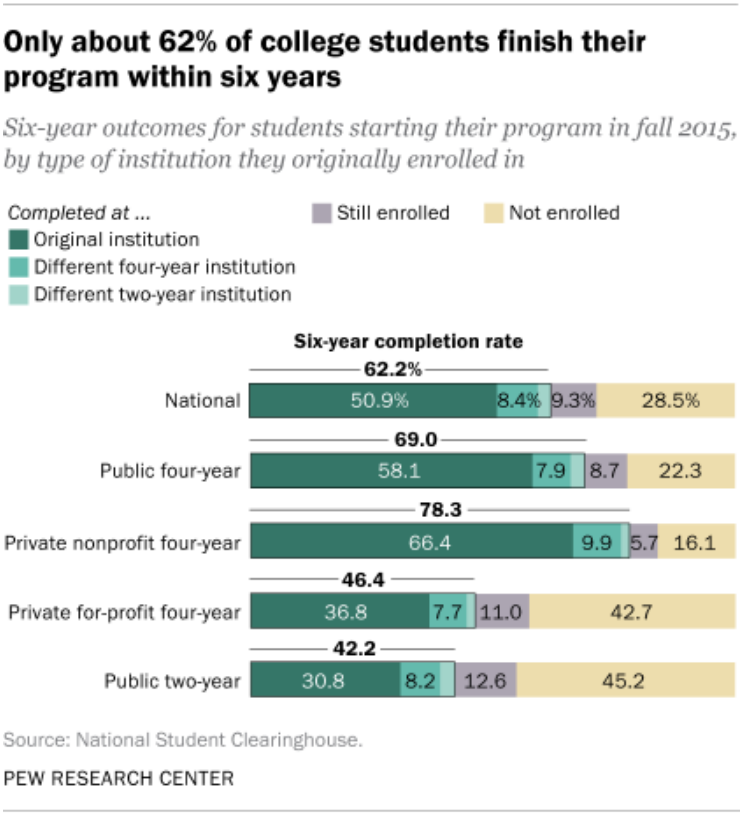
Note: All races are non-Hispanic. Hispanics are of any race.
Source: 2000 to 2002 March Current Population Survey, 2003 to 2021 Annual Social and Economic Supplement to the Current Population Survey, U.S. Census Bureau.

PEW RESEARCH CENTER

There are racial and ethnic differences in college graduation patterns, as well as in the reasons for not completing a degree. Among adults ages 25 and older, 61% of Asian Americans have a bachelor's degree or more education, along with 42% of White adults, 28% of Black adults and 21% of Hispanic adults, according to 2021 Current Population Survey data. The share of bachelor's degree holders in each group has increased since 2010. That year, 52% of Asian Americans had a four-year degree or more, compared with a third of White adults, 20% of Black adults and 14% of Hispanic adults.

The October 2021 Center survey found that among adults without a bachelor's degree, Hispanic adults (52%) were more likely than those who are White (39%) or Black (41%) to say a major reason they didn't graduate from a four-year college is that they couldn't afford it. Hispanic and Black adults were more likely than their White counterparts to say needing to work to support their family was a major reason.

While a third of White adults said not wanting to go to school was a major reason they didn't complete a four-year degree, smaller shares of Black (22%) and Hispanic (23%) adults said the same. White adults were also more likely to cite not needing more education for the job or career they wanted. (There weren't enough Asian adults without a bachelor's degree in the sample to analyze separately.)



Only 62% of students who start a degree or certificate program finish their program within six years, according to the most recent data from the National Student Clearinghouse, a nonprofit verification and research organization that tracked first-time college students who enrolled in fall 2015 with the intent of pursuing a degree or certificate. The degree completion rate for this group was highest among students who started at four-year, private, nonprofit schools (78.3%), and lowest among those who started at two-year public institutions (42.2%).

Business is the most commonly held bachelor's degree, followed by health professions. According to the National Center for Education Statistics, about a fifth (19%) of the roughly 2 million bachelor's degrees conferred in 2019-20 were in business. Health professions and related programs were the second most-popular field, making up 12.6% of degrees conferred that year. Business has been the single most common major since 1980-81; before that, education led the way.

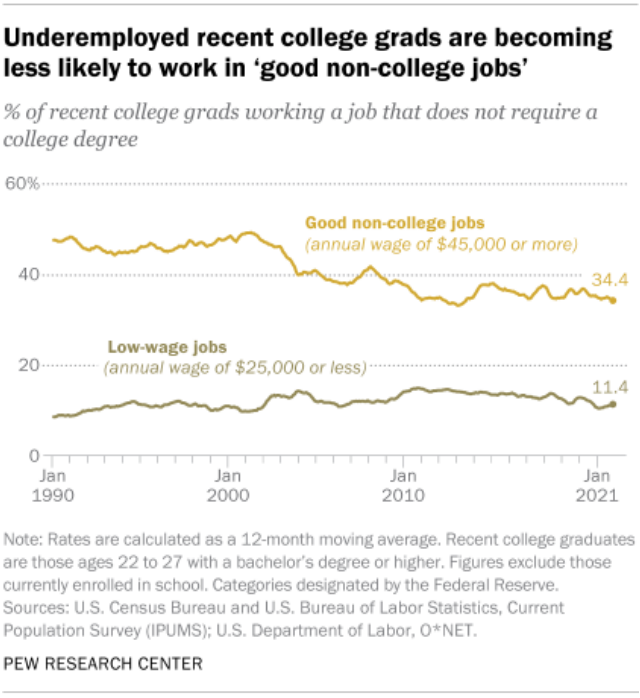
The *least* common bachelor's degrees in 2019-20 were in military technologies and applied sciences (1,156 degrees conferred in 2019-20), library science (118), and precision production (39).

There is a growing earnings gap between young college graduates and their counterparts without degrees. In 2021, full-time workers ages 22 to 27 who held a bachelor's degree, but no further education, made a median annual wage of $52,000, compared with

$30,000 for full-time workers of the same age with a high school diploma and no degree, according to data from the Bureau of Labor Statistics. This gap has widened over time. Young bachelor's degree holders earned a median annual wage of $48,481 in 1990, compared with $35,257 for full-time workers ages 22 to 27 with a high school diploma.

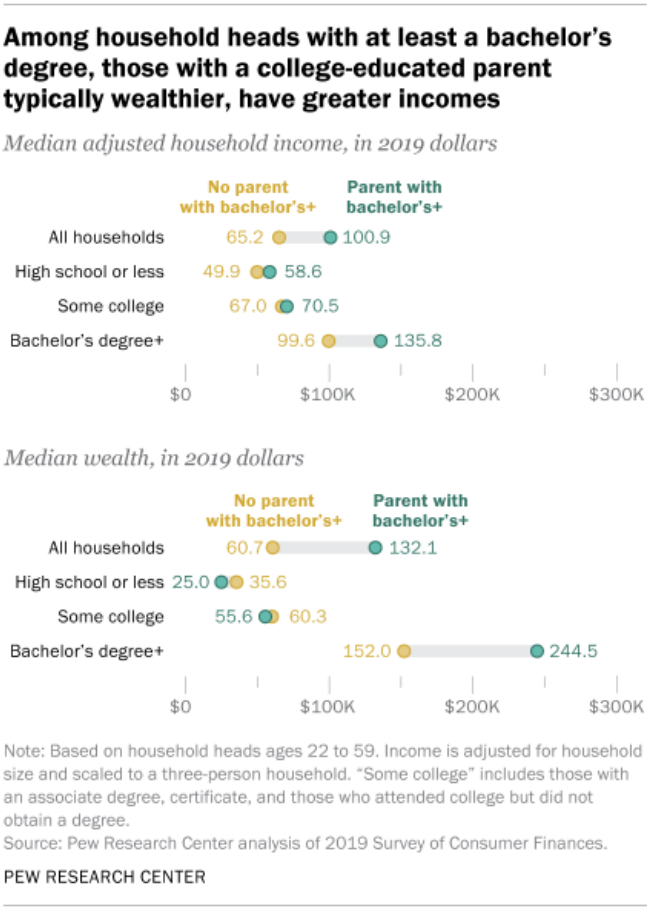
The unemployment rate is lower for college graduates than for workers without a bachelor's degree, and that gap widened as a result of the coronavirus pandemic. In February 2020, just before the COVID-19 outbreak began in the U.S., only 1.9% of college graduates ages 25 and older were unemployed, compared with 3.1% of workers who completed some college but not a four-year degree, and 3.7% of workers with only a high school diploma. By June 2020, after the pandemic hit, 6.8% of college grads, 10.8% of workers with some college, and 12.2% of high school grads were unemployed.

By March 2022, the unemployment rate had nearly returned to pre-pandemic levels for college graduates (2%) while dropping to 3% among those with some college education but no four-year degree, and 4% among those with only a high school diploma.



Recent college graduates are more likely than graduates overall to be underemployed – that is, working in jobs that typically do not require a college degree, according to an analysis of Census Bureau and BLS data by the Federal Reserve Bank of New York. As of December 2021, 41% of college graduates ages 22 to 27 were underemployed, compared with 34% among all college graduates. The underemployment rates for recent college grads rose in 2020 as the COVID-19 outbreak strained the job market, but have since returned to pre-pandemic levels.

As of the end of 2021, only 34% of underemployed graduates ages 22 to 27 worked what the Fed defines as “good non-college jobs” – those paying at least $45,000 a year – down from around half in the 1990s. The share of underemployed graduates ages 22 to 27 in low-wage jobs – those earning less than $25,000 annually – rose from about 9% in 1990 to 11% last year.



When it comes to income and wealth accumulation, first-generation college graduates lag substantially behind those with college-educated parents, according to a May 2021 Pew Research Center analysis. Households headed by a first-generation college graduate – that is, someone who has completed at least a bachelor’s degree but does not have a parent with a college degree – had a median annual income of $99,600 in 2019, compared with $135,800 for households headed by those with at least one parent who graduated from college. The median wealth of households headed by first-generation college graduates ($152,000) also trailed that of households headed by someone with a parent who graduated from college ($244,500). The higher household income of the latter facilitates saving and wealth accumulation.

The gap also reflects differences in how individuals finance their education. Second-generation college graduates tend to come from more affluent families, while first-generation college graduates are more likely to incur education debt than those with a college-educated parent.

Most Americans with college degrees see value in their experience. In the Center's October 2021 survey, majorities of graduates said their college education was extremely or very useful when it came to helping them grow personally and intellectually (79%), opening doors to job opportunities (70%) and developing specific skills and knowledge that could be used in the workplace (65%).

Younger college graduates were less likely than older ones to see value in their college education. For example, only a third of college graduates younger than 50 said their college experience was extremely useful in helping them develop skills and knowledge that could be used in the workplace. Among college graduates ages 50 and older, 45% said this.

Topics
Education Higher Education

More than half of employees open to leaving employer

Employers face substantial risk of employee departure

53% are either actively looking for new opportunities or at risk of leaving

13% plan to leave/ looking for a career change

15% plan to leave/ looking for a new employer

25% plan to stay but feel stuck/would leave for right offer

47% plan to stay/not open to offers

Two-fifths of employees would leave for a 5% pay increase

1 in 5 would leave for same pay

Employee considerations when weighing job options

Top reasons for staying		Top reasons for moving to new job	
Pay and bonus	39%	Pay and bonus	56%
Job security	38%	Health benefits	39%
Health benefits	34%	Job security	33%
Flexible work	29%	Flexible work	31%

Health and retirement benefits are growing in importance as attraction and retention tools

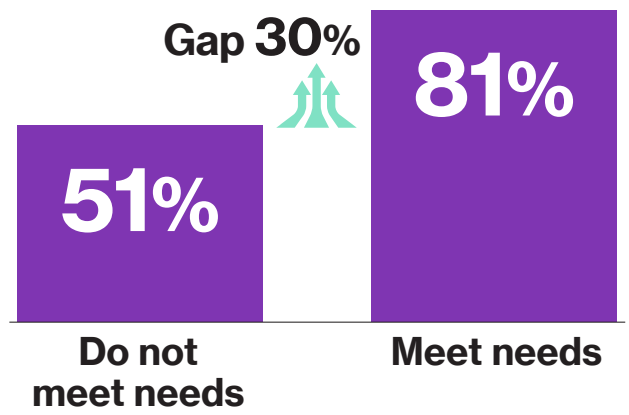
	An important reason to join		An important reason to stay	
	2010	2022	2010	2022
Retirement plan	25%	47%	41%	60%
Healthcare plan	32%	48%	50%	60%

Note: Percentages indicate “agree” or “strongly agree”

When benefits meet employee needs, employers see a boost in retention

Would like to remain with my employer for the

*Agree or strongly agree



Actions you can take now

- Measure the competitiveness of your Total Rewards, including benefit package, especially retirement and healthcare plans, against that of your talent competitors
- Implement employee listening strategies to gather insights to understand the perceptions and needs of employees and develop strategies to retain highly valued and at-risk talent
- Boost employee communication to promote the employee value proposition. Deliver personalized communication to demonstrate the value of Total Rewards programs
- Assess the effectiveness of your Total Rewards, including benefit programs, to identify opportunities to address personal circumstances and support employees in making informed benefit decisions
- Review job design to define new ways of working and define the combination of remote, hybrid and onsite work that both managers and employees regard as effective; use this model to establish clear work boundaries and methods for building team connections

Source: 2022 Global Benefits Attitude Survey

About the survey: A total of 9,658 U.S. employees from large and midsize private employers participated in the survey, which was conducted during December 2021 and January 2022.

wtwco.com

wtw

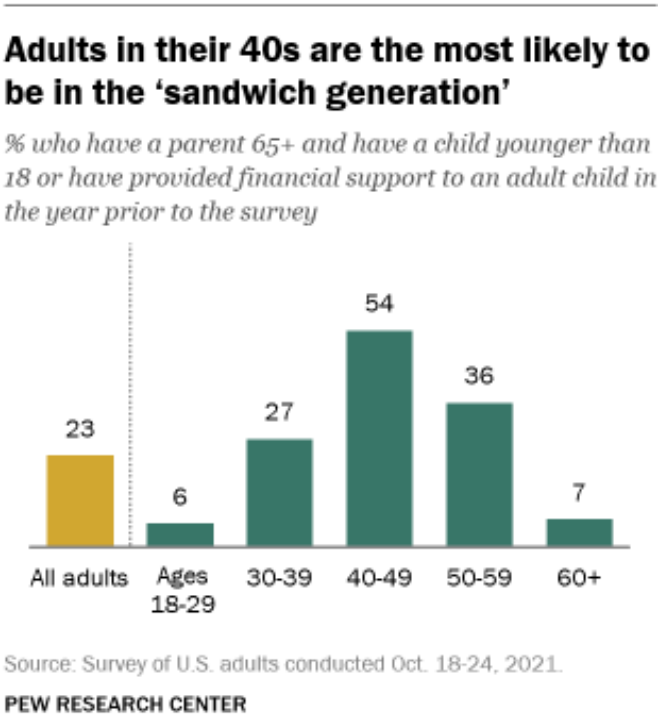
APRIL 8, 2022

More than half of Americans in their 40s are ‘sandwiched’ between an aging parent and their own children

BY JULIANA MENASCE HOROWITZ


(Justin Paget via Getty Images)

As people are living longer and many young adults are struggling to gain financial independence, about a quarter of U.S. adults (23%) are now part of the so-called “sandwich generation,” according to a Pew Research Center survey conducted in October 2021. These are adults who have a parent age 65 or older and are either raising at least one child younger than 18 or providing financial support to an adult child.



Americans in their 40s are the most likely to be sandwiched between their children and an aging parent. More than half in this age group (54%) have a living parent age 65 or older and are either

raising a child younger than 18 or have an adult child they helped financially in the past year. By comparison, 36% of those in their 50s, 27% of those in their 30s, and fewer than one-in-ten of those younger than 30 (6%) or 60 and older (7%) are in this situation.

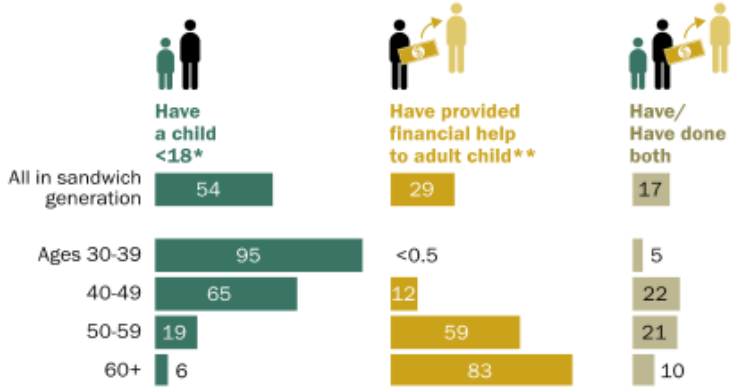
Men and women, as well as adults across racial and ethnic groups, are about equally likely to be in the sandwich generation, but there are some differences by educational attainment, income and marital status. About a third of married adults (32%) are in the sandwich generation, compared with 23% of those who are divorced or separated, 20% of those who are living with a partner, and just 7% each of those who are widowed or have never been married.

How we did this

Adults with at least a bachelor's degree (30%) are more likely than those with some college or less education (20%) to be in the sandwich generation. And while 27% of those with upper incomes are sandwiched between an aging parent and their own children, a smaller share of those with lower incomes (21%) are in this situation. About a quarter of adults with middle incomes (24%) are part of the sandwich generation.

About one-in-five 'sandwiched' adults in their 40s and 50s have both a minor child and an adult child they've helped financially

Among those in the 'sandwich generation,' % who have a living parent age 65 or older and ...



* And have not provided financial help to an adult child.
** And do not have a child younger than 18.
Note: Adults in the sandwich generation are those who have a living parent age 65 or older and are either raising a minor child or have provided financial support to an adult child in the year prior to the survey. There were too few adults younger than 30 in this group to analyze separately.
Source: Survey of U.S. adults conducted Oct. 18-24, 2021.

PEW RESEARCH CENTER

The family circumstances of sandwiched adults vary considerably by age. In their 30s and 40s, most have an aging parent and at least one child younger than 18, but no adult children they've supported financially. This is the case for nearly all sandwiched adults in their 30s (95%) and 65% of those in their 40s.

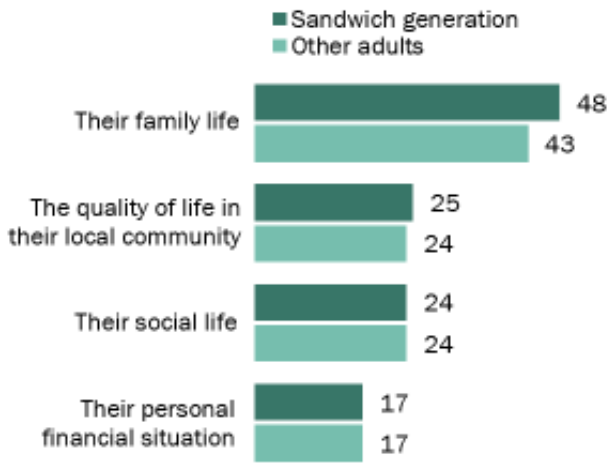
By the time they're in their 50s, far smaller shares of sandwiched adults are raising children who are minors. Instead, a majority of those in their 50s (59%) and those 60 and older (83%) are sandwiched between an aging parent and an adult child they've helped financially.

Among those in their 40s and 50s, the two age groups most likely to be in the sandwich generation, about one-in-five have both a child younger than 18 and an adult child they've helped financially, in addition to having an aging parent. There aren't enough sandwiched adults younger than 30 to analyze separately.

Adults who are sandwiched between an aging parent and a minor child or an adult child they've helped financially are more likely than those who are not in this situation to say they are very satisfied with their family life (48% vs. 43%, respectively). This difference is particularly pronounced among those in their 40s: About half of sandwiched adults in this age group (49%) say they are very satisfied with their family life, compared with 38% of other adults in the same age group.

'Sandwich generation' adults are somewhat more likely than other adults to say they're very satisfied with their family life

% saying they are very satisfied with ...



Note: Adults in the sandwich generation are those who have a living parent age 65 or older and are either raising a minor child or have provided financial support to an adult child in the year prior to the survey.
Source: Survey of U.S. adults conducted Oct. 18-24, 2021.

PEW RESEARCH CENTER

When it comes to assessments of some other aspects of life, adults who are and are not sandwiched give similar answers. About a quarter in each group say they are very satisfied with their social life and with the quality of life in their local community, and 17% in each express high levels of satisfaction with their personal financial situation.

Adults who are sandwiched between an aging parent and their own children are about as likely as other adults to live in a multigenerational household, though they may not be living with the family members they are sandwiched between. About one-in-five in each group live with multiple adult generations under the same roof (19% of those in the sandwich generation vs. 18% of other adults).

A Pew Research Center survey conducted in 2014 also found that 23% of U.S. adults were in the sandwich generation. However, the 2014 survey was conducted by phone rather than the Center's online American Trends Panel, so these results aren't directly comparable.

Note: Here are the questions used for the report, along with responses, and its methodology.

https://www.nhl.com/capitals/news/against-the-odds-remembering-mike-marsons-career-with-the-caps/c-305201080

Against the Odds: Remembering Mike Marson's Career with the Caps

Sixteen years after Willie O'Ree broke the NHL's color barrier, an 18-year-old Mike Marson made his NHL debut with the expansion Capitals

by Ben Raby @BenRaby31 / WashingtonCaps.com
February 25, 2019

It was a typical Career Day for the Grade 6 class at Buchanan Public School in Scarborough, Ontario, complete with the usual allotment of fire fighters, policemen, nurses and other accomplished professionals on hand to chat with students.

Mike Marson, who played for the Washington Capitals during their 1974-75 expansion season, still remembers sitting in the classroom that day in 1967 along with his childhood friend and future New York Rangers forward Wayne Dillon.

"They were trying to get us to think about more than being in Grade 6," Marson recalled.

"So, Wayne was asked what he would someday like to do for a living, and he said he wanted to be a National Hockey League player. 'That's great, good for you,' he was told. Then I was asked the same question and I gave the same answer. The [staff] just looked at each other and shook their heads as if to say, 'Kid, you have no idea the mountain that you think you're going to climb.'"

The doubters were always going to be there because of Marson's skin color. He was a black kid looking to make it big in a historically white sport.

Although Willie O'Ree had broken the NHL's color barrier with the Boston Bruins in 1958, his 45-game tenure ended after the 1960-61 season. By the time Marson was dreaming of his own NHL career in his Grade 6 classroom, no other black player had earned an NHL paycheck.

But as racial tensions increased in the U.S. and the race riots of the late 1960s dominated the news cycle, Marson was enamored by a different tone that was slowly building momentum in Canada. Sixteen days after Martin Luther King Jr. was assassinated in Memphis, Tennessee on April 4, 1968, Pierre Elliott Trudeau was elected as Canada's 15th Prime Minister.

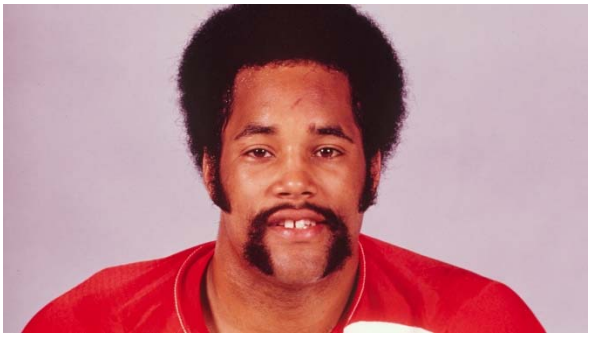
"We had the original 'Trudeau-mania' going on, and its message was that you could do anything you want regardless of your race, creed or color as long as you applied yourself to it," Marson said.

The eldest of five children, Marson left home when he was 17 to play with the Ontario Hockey Association's Sudbury Wolves. In his mind, if he showed himself well in Ontario's top junior league, an NHL career would follow, regardless of his skin color. The politically active Marson believed in what Prime Minister Trudeau was selling.

"The whole thing in Trudeau's perspective was, 'Why shouldn't you be allowed?'" Marson explained. "You're black? Well, why shouldn't you be able to play in the National Hockey League and play at Maple Leaf Gardens? Why not?"

In his second season in Sudbury, Marson was the Wolves' leading scorer with 35 goals, 94 points and 146 penalty minutes in 69 games. The 1973-74 season would be his last in the OHA.

On May 31, 1974, the Capitals began assembling their maiden roster at the NHL Amateur Draft. Washington selected Marson with the first pick in the second round (19th overall).



Defenseman Greg Joly had been taken first overall by the Capitals and both Joly and Marson would have plenty of expectations thrust upon them as the first two players selected in franchise history.

The expectations only grew when the Capitals signed Marson to a five-year, $500,000 contract, primarily to keep him from signing with the rival World Hockey Association.

Marson recorded a hat trick in his first preseason game, then made the team out of training camp and skated in the club's first regular-season game on October 9, 1974 in New York. In doing so, Marson became the second black player in NHL history and the first since O'Ree nearly 14 years earlier.

Playing for a struggling expansion team would have been difficult enough for Marson under normal conditions. Doing so as a well-compensated visible minority made for challenges he wasn't prepared for.

"It wasn't just that I was a 19-year-old kid playing professional hockey," Marson said. "I was the only kid in the world who was black and playing at that time. And with all of the different social ramifications and setups that were going on at that time in America, it was completely unheard of."

Without the benefit of any minor-league seasoning, Marson played in 76 games during the Capitals' inaugural season - second on the team behind only Bill Lesuk, who played in 79.

Marson finished with 16 goals and 28 points as a rookie and entered the NHL as advertised - as one of the game's best skating prospects. The problem, Marson quickly found out, was that he couldn't out-skate the social realties of his situation quite as easily as he could elude a crosscheck.

"It was a daily issue of things that were almost mind blowing," he said. "There were times when I was refused lodging in hotels and the team would have to stick up for me. Or entering an arena like say, Madison Square Garden, and being questioned by security staff because there were no black hockey players. So, to their credit, they were asking the right questions, only to find out that yes, I was playing for Washington. For me, this was a daily thing. You'd go to pre-board an airplane and you're questioned - 'Well sir, I'm sorry this is just for the hockey players.' I dealt with this kind of business all the time."

Most alarming were the death threats Marson received in the mail and over the phone both at the Capital Centre and at his suburban home in Silver Spring, Maryland. There was also a death threat called in one night at The Spectrum in Philadelphia.

"These are things that are not in the manual of a professional hockey player," he said.

According to Marson, the battles he dealt with off the ice carried over into the hockey arena as well.

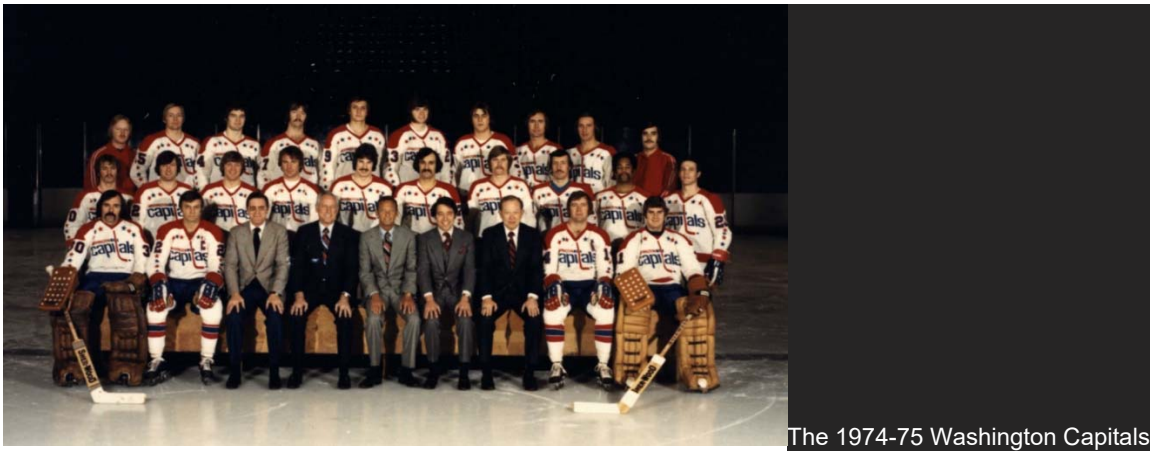
"We're right in the pressure cooker of it, visiting cities like Chicago, Detroit or Atlanta back then," Marson said.

"People still had an emotional attachment to the negative things that had transpired in America at that time in the big cities. So now you're a young black hockey player coming into this arrangement and you're going into arenas where the people are looking to see who is going to get you. It's a novel thing and hockey is a contact sport. They hear, 'Oh, the kid can throw them pretty good, let's see who's going to handle him.' So, it was just a non-stop thing."

According to some of his teammates, Marson was set up to fail. He was a teenage prospect on a lousy expansion team with little guidance and few mentors. The slurs and taunts were audible every game, not only from the stands, but on the ice too, where opponents regularly took extra liberties with slashes and high sticks.

"It was overt on the ice, and he played an aggressive style," said former Capitals forward Ron Lalonde, teammates with Marson for parts of four seasons.

"He played like he had a chip on his shoulder. That's how he played in junior- rough and tough. But guys in the NHL started to challenge him and you'd hear things that would get anybody upset and riled. Unfortunately, he had to spend too much time fighting and trying to defend himself rather than working on his game. He had the physical skills, but he needed some coaching and some patience and fitting in."


The 1974-75 Washington Capitals

Yvon Labre led the Capitals with 182 penalty minutes during the 1974-75 season, but the expansion club, which lacked in many areas, didn't have a true enforcer or tough guy. On most nights, the 19-year-old Marson was left to fend for himself.

"You'd hear things from some of the tougher players in the league because they knew they could get him off of his game pretty quick," Lalonde said.

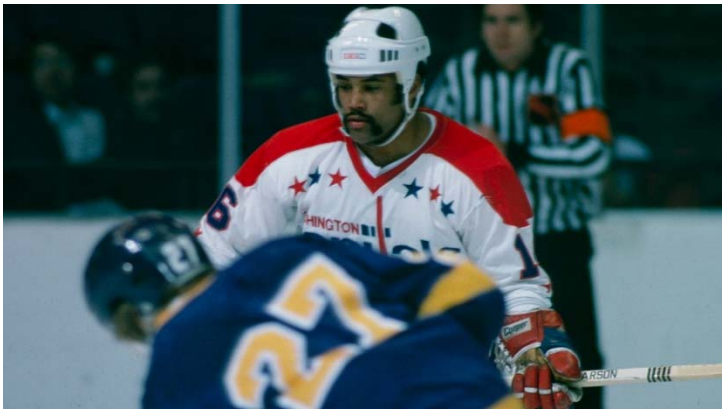
"There were racial slurs that were fired and he'd be quick [to react]. He had a short fuse. The next thing you knew, he'd be involved in something. It was hard for him to work on his game. And he could skate. He was one of the best skaters in the league, but he spent so much energy having to defend himself."

Decades later, Marson said he would have appreciated more support from his teammates, many of whom he says were from rural settings and had had little contact with people of color until meeting him.

Off the ice, Marson battled weight issues and alcoholism during his playing career. In 1976, Marson nearly missed the Capitals' postseason trip to Japan because head coach Tom McVie said he wasn't in good enough shape.

"Me, Tommy and the weight scale became good friends," Marson said of his regular trips to the trainer's room.

Marson's playing career fizzled, with his trying rookie season arguably serving as the peak. He spent four more seasons in the Capitals organization, all of which were split between the NHL and the minors.



"I enjoyed Mike," said former Capitals goaltender Bernie Wolfe. "He could skate probably better than anybody on our team. That guy could move and he was big. But Mike had difficulty, there's no doubt. He was making a lot of money, and there was big-time pressure.

"Mike could fight, though, so he wasn't going to put up with much [expletive] on the ice. But I think the things that bothered Mike more were in his personal life. We were in Toronto one night, Hockey Night in Canada, and coach comes in and says, 'Mike, I've got to talk to you.' And he tells him that his brother had died suddenly. Mike had a lot of the personal things that he had to live with."

Marson's career lasted six seasons, five of which were spent shuffling between the NHL and AHL. After 193 games with the Capitals and three more with the Los Angeles Kings, Marson finished his NHL career with 24 goals and 48 points and 233 penalty minutes. He retired at the age of 25, and returned to the Greater Toronto Area where he worked as a martial arts instructor and a bus driver.

Despite the challenges, he looks back fondly on his playing days.

"You do your best," he said. "I was certainly up against many different challenges that there was no schooling for, there was no education that you can get or read up on. You had to be in tune with arrangements and situations. And at 18, just turning 19, I haven't met very many people that were playing in the National Hockey League at that level at that age and had a different ethnicity that was a visible minority. So, I did my best."

As for that unspoken mountain from Career Day that Marson would have to climb to realize his dream:

"I did climb it," he said decades later. "And I put a flag on the top of it, too."

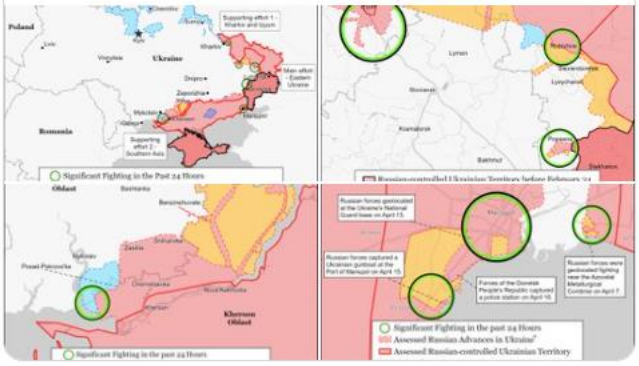
This was a book excerpt from 100 Things Capitals Fans Should Know and Do Before They Die.

A revised edition of the book will be released in March 2019, with highlights from the Capitals 2018 Stanley Cup victory.

Dan Tsubouchi @Energy_Tidbits · 56m

Great maps paint a clear picture and tell a story. Ukraine would be landlocked if RUS can take control of Odessa region. Thx @TheStudyofWar for great maps. #OOTT

> **ISW** @TheStudyofWar · 16h
>
> #Ukraine's sinking of the Moskva was a significant event that has likely triggered intensified #Russian air and missile attacks in retaliation, but the decisive operations of this phase of the war will still be conducted on the ground in eastern Ukraine.
> isw.pub/RusCampaignApr...



1

Dan Tsubouchi @Energy_Tidbits · 5h

Libya National Oil Corporation just declared #ForceMajeure of #Oil exports from Melitah Port. Don't know what current exports were, but export capacity is ~160,000 b/d. #OOTT
facebook.com/noclibya/

> ps://www.facebook.com/noclibya/
>
> ation announces force majeure on the El Feel oil field due to the interruption of production.
> ril 16, 2022 at 18:30, the El Feel oil field was subjected to arbitrary closure attempts, due to t
> ention of users from continuing production. Production has stopped completely today, Sunda
> on of the Corporation to its contractual obligations is impossible.
> al Oil Corporation is obliged to declare a state of force majeure on Mellitah crude until furth
> ation regrets the state of affairs and calls for giving precedence to the language of reason and
> icts in order to preserve what is left of the already dilapidated and worn out infrastructure, d
> the past years, as well as the scarcity of budgets during the past years.

> **Dan Tsubouchi** @Energy_Tidbits · 16h
>
> 
> Libya #Oil supply interruption. El Feel is normally ~70,000 b/d. Will nearby Sharara oil field be next? See SAF Group Libya oil fields & ports map.
> safgroup.ca/news-insights/
> #OOTT

1 1

Dan Tsubouchi @Energy_Tidbits · 16h

Remember Eastern Libya military leaders left 5+5 JMC a week ago and urged Haftar to shut in Libya #Oil exports. It's why it feels like there are more oil supply interruptions than just El Feel still to come. #OOTT
twitter.com/Energy_Tidbits...

> **Dan Tsubouchi** @Energy_Tidbits · 16h
>
> Libya #Oil supply interruption. El Feel is normally ~70,000 b/d. Will nearby Sharara oil field be next? See SAF Group Libya oil fields & ports map. safgroup.ca/news-insights/
> #OOTT
>
> 
>

1 5 8

Dan Tsubouchi @Energy_Tidbits · 16h

Libya #Oil supply interruption. El Feel is normally ~70,000 b/d. Will nearby Sharara oil field be next? See SAF Group Libya oil fields & ports map.
safgroup.ca/news-insights/
#OOTT

> **The Libya Observer** @Lyobserver · 18h
>
> 
>
> Playing the oil card, militia groups loyal to warlord Khalifa Haftar close Al-Feel oil field demanding the Government of National Unity to hand over power to the government of Fathi Bashagha.

1 5 3

Dan Tsubouchi @Energy_Tidbits · 20h

#Vortexa crude #Oil floating storage for 04/15 est 91.88 mmb, -2.07 mmb WoW vs revsied up 93.95 mmb at 04/08. Floating storage has been fairly steady around the ~90-95 mmb range for past few months. Thx @Vortexa @TheTerminal #OOTT

Vortexa Crude Oil Floating Storage Estimated as of April 16, noon MT

Source: Bloomberg, Vortexa

Est as of Apr 16, noon MT

Date	FZWWFST VT... Mid Px
Fr 04/15/2022	91882
Fr 04/08/2022	93949
Fr 04/01/2022	84450
Fr 03/25/2022	89304
Fr 03/18/2022	90780
Fr 03/11/2022	93993
Fr 03/04/2022	93116
Fr 02/25/2022	92805
Fr 02/18/2022	86368
Fr 02/11/2022	97959
Fr 02/04/2022	99663

Est as of Apr 9, noon MT

Date	FZWWFST V... Mid Px
Fr 04/08/2022	87295
Fr 04/01/2022	85965
Fr 03/25/2022	89581
Fr 03/18/2022	91542
Fr 03/11/2022	93402
Fr 03/04/2022	92397
Fr 02/25/2022	92181
Fr 02/18/2022	84472
Fr 02/11/2022	97403
Fr 02/04/2022	98271
Fr 01/28/2022	93433

Est as of Apr 2, 1pm MT

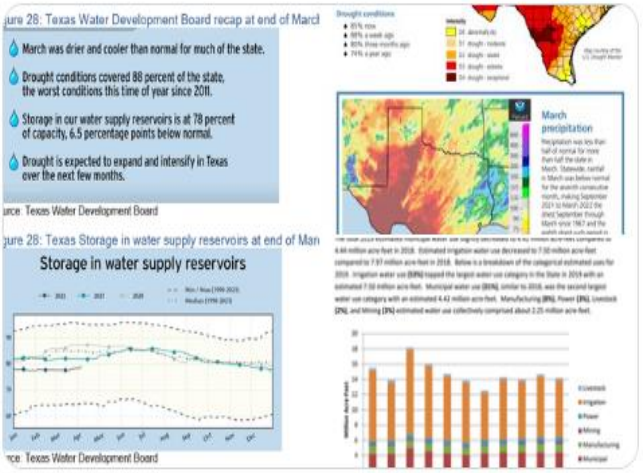
Date	FZWWFST V... Mid Px
Fr 04/01/2022	89501
Fr 03/25/2022	90194
Fr 03/18/2022	96062
Fr 03/11/2022	90367
Fr 03/04/2022	96009
Fr 02/25/2022	94149
Fr 02/18/2022	85687
Fr 02/11/2022	99352
Fr 02/04/2022	100.9k
Fr 01/28/2022	95887
Fr 01/21/2022	98802

Source: Bloomberg, Vortexa

4 6

Dan Tsubouchi @Energy_Tidbits · Apr 16

Texas drought conditions worst since 2011, expected to get worse in near term, hopefully not enough to cause cutbacks. #Oil #Gas (Mining) is only 3% of TX water use. But last thing needed is impact on irrigation for food. Good @twdb recap texaswaternewsroom.org/videos/water_a... #OOTT



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Dan Tsubouchi @Energy_Tidbits · Apr 16

#ChinaLockdown. Not a full lockdown like Shanghai, but Covid restrictions announced in Xi'an, capital of Shaanxi province with 13 million people, ~1,400 km west of Shanghai. #OOTT

globaltimes.cn/page/202204/12...

Source: Google Maps

https://www.globaltimes.cn/page/202204/1259448.shtml

Xi'an launches temporary closed-off management amid latest COVID-19 flare-up

By Global Times Published: Apr 14, 2022 01:59 AM

Xi'an, the capital city of Northwest China's Shaanxi Province, announced on Friday temporary control measures from 0:00 on Saturday to 24:00 on Tuesday, requiring residents to avoid unnecessary outdoor activities, conducting closed-off management of shopping malls and other public venues, and strengthening prevention measures, in order to decrease infection risk.

As of Friday, Xi'an, a city with more than 13 million residents, has reported 43 domestic cases. The control measures were announced on Friday night and this flare-up was caused by the Omicron variant. Some confirmed cases have been among logistics staff who have had close contacts with the public.

Given the difficulty of conducting epidemiological surveys and the risk of infection through people-to-people contacts and through materials to people, the city authorities decided to take the temporary control measures, according to a press release from Xian's anti-epidemic command center.

According to the release, residents are encouraged not to go outside their residential communities, with volunteers being deployed to register and take the temperature of those who come in and out.

Working from home is also being encouraged, except for students in the third year of middle school and high school. Other students will have online classes. Shopping malls, entertainment venues such as cinemas and museums, and markets in villages are temporarily closed. Prisons and nursing homes will follow closed-off management.

Restaurants will only provide take-out services and logistics industries are being required to firmly implement prevention measures. Passengers for public transportation will also need to show negative nucleic acid test results.

The press release also noted that residential communities need to take special care of seniors who live alone, pregnant women, and residents with disabilities or diseases.

China on Friday reported 3,472 domestic cases and 20,694 asymptomatic ones with the majority found in Shanghai, where closed-off measures have also been implemented.

Stay informed

This Tweet links to a China state-affiliated media website.
Find out more

1

Dan Tsubouchi @Energy_Tidbits · Apr 15

Doesn't sound RUS will immediately cut off #NatGas #Oil for no rubles payment. "I will remind you that our aim is to convert payments for energy resources into national currencies and to gradually depart from dollars and euros" says #Putin. #OOTT

en.kremlin.ru/events/preside...

Meeting on current situation in oil and gas sector

Vladimir Putin held a meeting on the current situation in the oil and gas sector, via videoconference.

April 14, 2022 17:15 Novo-Ogaryovo, Moscow Region

4 of 4 During the meeting on current situation in oil and gas sector (via videoconference).

3 4

Dan Tsubouchi @Energy_Tidbits · Apr 15

Japan to provide "risk money" thru state-run JOGMEC "for existing #LNG projects that can boost output quickly via expansion" reports @YukaObayashi. Can't find any #LNG export that can execute brownfield expansions faster than US Gulf Coast. #OOTT #NatGas

reuters.com

Japan to boost investment role in upstream LNG projects

Japan plans to step up its investment role in upstream projects for liquefied natural gas (LNG), to spur new development and boost fuel ...

5 8

Dan Tsubouchi @Energy_Tidbits · Apr 15

Germans asked to conserve energy to reduce reliance on Russia. Good thing it's shoulder season in Germany and not peak electricity demand in the winter or peak transportation oil/diesel demand in summer. #OOTT #NatGas

euractiv.com

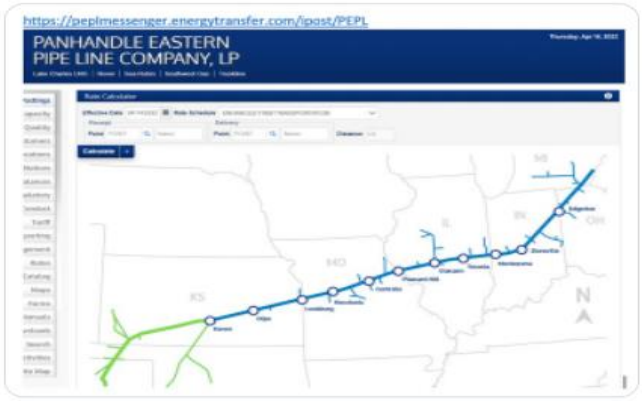
Germans asked to conserve energy to reduce reliance on Russia

Germans should start saving energy to become more independent from Russian fossil fuels, Economic Minister Robert Habeck said, as ...

3 6

Dan Tsubouchi @Energy_Tidbits · Apr 14

Good reminder from @HutchNews: 1.3 bcf/d capacity, "location adjacent to the existing Panhandle Eastern facility near Haven because the junctions of three separate pipelines bring together gas from the Oklahoma and Texas Panhandles and other input areas." #NatGas #OOTT



HutchNews @HutchNews · Apr 14

The Haven Midstream gas plant erupted in flames Thursday afternoon, causing at least one explosion. Officials say two people at the plant were transported by EMS with minor injuries. For more: bit.ly/3JIXt7j

Dan Tsubouchi @Energy_Tidbits · Apr 14

Here is pg 192 excerpt Liberals "2030 Emissions Reduction Plan" on adding sliding scale Green Levy on pickup trucks. one of the many battles for @jkenney with some big ones still to come from the ERP. #OOTT

cerpt from pg 192 of Liberals "2030 Emissions Reduction Plan"
canada.ca/content/dam/eccc/documents/pdf/climate-change/erp/Canada-2030-Emissions-Reduction-Pl

ncourage ZEV adoption

onsider adopting an approach that combines financial incentives for the purchase of ZEVs with fees or the purchase of fuel-inefficient ICE vehicles.

roaden Canada's existing Green Levy (Excise Tax) for Fuel Inefficient Vehicles to include additional CE vehicle types, such as pickup trucks. A sliding scale for the implementation of this Green Levy hould be developed based on the emissions produced from different vehicles. Revenue from a roadened Green Levy could increase available funding for ZEV incentives for individuals and rganizations without limiting the fleet size and while encouraging smaller vehicles of all fuel types.

arefully consider the impacts on and supports for low-income households and other vulnerable opulations when exploring changes to the Green Levy and ZEV incentives.

Jason Kenney @jkenney · Apr 14

The Liberal-NDP coalition is planning a punishing tax on working people for buying pickup trucks.

That's on top of their carbon tax and their inflationary policies....

1 2

Dan Tsubouchi @Energy_Tidbits · Apr 14

Americans want more US support to UA, but only 19% prepared to risk war w/ RUS. #Biden approval 33% & RUS/UA handling 39%. thru mid-terms, does #Biden have any choice but try to get more countries like Japan to ban RUS #Oil #NatGas #LNG imports? #OOTT

poll.qu.edu

74% Of Americans Think Worst Of War In Ukraine Is Yet To Come, Quinnipiac University National Poll...

1 1 3

Dan Tsubouchi @Energy_Tidbits · Apr 13

just saw the new #Volvo C40 Recharge commercial with the selling features 100% electric and 0% leather. anyone else remember when Chrysler had Ricardo Montalban introducing the 1975 Chrysler Cordoba with the big selling feature "fine Corinthian leather".

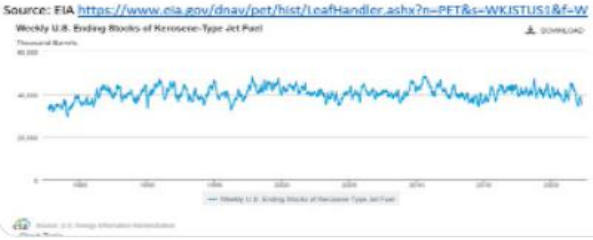
2 1 13

Dan Tsubouchi @Energy_Tidbits · Apr 13

Tight US #JetFuel inventories just as @Delta CEO Bastian tells @Lebeaucarnews record bookings for any month in their history. @EIAgov jet fuel stocks are down 10-20% vs norm for 1st week of April. #OOTT

EIA U.S. Ending Stocks of Kerosene-Type Jet-Fuel For 1st Week of April
2022: 35.4 mmb
2021: 38.3
2020: 38.9
2019: 41.9
2018: 40.0
2017: 42.5

Source: EIA https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=WKJSTUS1&f=W



> **Dan Tsubouchi** @Energy_Tidbits · Apr 13
>
> 
>
> #JetFuel. "in the month of March, we've had the highest sales, in terms of bookings, of any month in our history, period" "and this is continuing into April" says @Delta CEO Bastian to @Lebeaucarnews. #OOTT

2 3

Dan Tsubouchi @Energy_Tidbits · Apr 13

#JetFuel. "in the month of March, we've had the highest sales, in terms of bookings, of any month in our history, period" "and this is continuing into April" says @Delta CEO Bastian to @Lebeaucarnews. #OOTT

SAF Group created transcript of CNBC Phil LeBeau interview with Delta Air Lines CEO Ed Bastian April 13, 2022 https://www.cnbc.com/2022/04/13/delta-air-lines-dal-q1-2022-earnings.html

Items in "italics" are SAF created transcript

Bastian "the demand is phenomenal. We've never seen, in our company's history, demand for our product and services at the level we are. In the month of March, we've had the highest sales, in terms of bookings, of any month in our history, period." LeBeau "highest ever?" Bastian "Highest ever in March." LeBeau "that's just going back to the start of the pandemic?" Bastian "Highest ever and this is continuing into April."

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

1 3

Dan Tsubouchi @Energy_Tidbits · Apr 13

For those not near their laptop, @EIAgov weekly #Oil #Gasoline #Distillates inventory data as of Apr 8 is just out. Prior to release, WTI was $101.84. #OOTT
ir.eia.gov/wpsr/overview....

s Inventory April 8: EIA, Bloomberg Survey Expectations

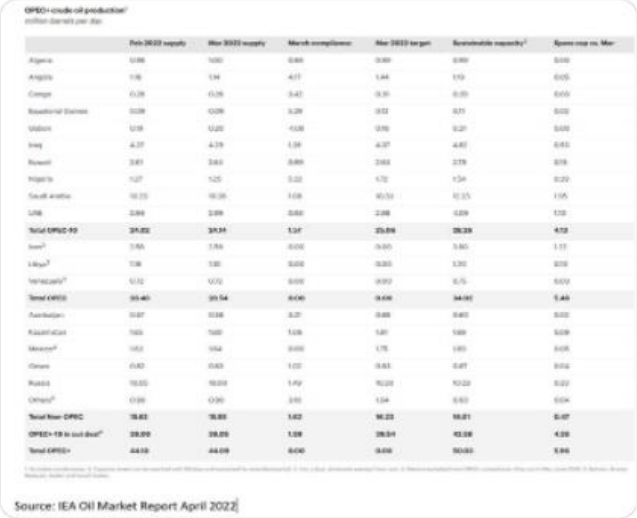
ls)	EIA	Expectations
	9.38	1.00
	-3.65	-0.60
	-2.90	-0.42
	2.83	-0.02

ommercial so builds in impact of 3.9 mmb draw from SPR for
ed in the oil data, Cushing had a build of 0.45 mmb for Apr 8 w
Bloomberg
SAF Group https://safgroup.ca/news-insights/

3

Dan Tsubouchi @Energy_Tidbits · Apr 13

Here's why @MoEnergy_Saudi Abdulaziz ("The Man") & #OPEC+ are in control of #Oil prices for next few years - New @IEA OMR table est only 1.16 mmb/d of gobal spare sustainable capacity outside of Saudi 1.95, Iran 1.22, UAE 1.10 & Kuwait 0.53. #OOTT

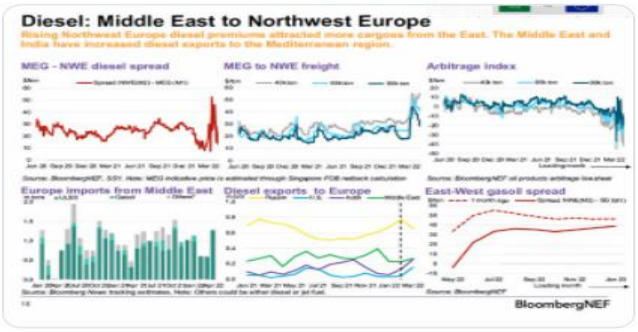


Source: IEA Oil Market Report April 2022

1 3 7

Dan Tsubouchi @Energy_Tidbits · Apr 12

It's not just #LNG, Europe also needs to keep attracting #Diesel cargos. Good reminder graphs from @vmohith25 @BloombergNEF. #OOTT



4 5

Dan Tsubouchi @Energy_Tidbits · Apr 12

anyone have the math on how allowing more blending at a time of very high corn prices will lead to lower #Gasoline prices? or is this simply a check mark to say they helped iowa when dems campaign in the mid terms ? #OOTT

spglobal.com
Biden to announce US EPA emergency waiver allo...
US President Joe Biden will announce April 12 an emergency waiver to allow summertime sales of ...

2 3 4

Dan Tsubouchi @Energy_Tidbits · Apr 11

Expect #OilDemand to be lowered in #OPEC MOMR Apr being released in morning. Note below tweet, what OPEC didn't account for in MOMR Mar was any impact of then accelerating China Covid lockdowns. #OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Mar 15
>
> An overlooked risk to #OPEC MOMR #OilDemand 2022 forecast. OPEC noted downside risk & demand fcast is subject to change re geopolitical turmoil from RUS/Ukraine. But OPEC did not mention recent China Shenzhen lockdown impact on oil demand in 2022. #OOTT twitter.com/Energy_Tidbits...

Excerpts OPEC Monthly Oil Market Report March 2022

World Economy

The conflict in Eastern Europe has added more downside risk to the performance of world economy in 2022. So far, and in addition to the ongoing pandemic, the conflict has led to a number of key issues including rising commodity prices, which are further escalating global inflation. The effects of the conflict, especially the impact of rising inflation, if sustained, will lead to a decline in consumption and investments to varying degrees. Moreover, financial conditions of the various asset classes, such as in currency markets, equities and an ongoing repricing of debt are being impacted. Clearly, this will impact economic activities in 2022, though to what exactly extent remains to be seen. Given the complexity of the situation, the speed of developments, and fluidity of the market, with so far limited data to understand the far-reaching consequences of this conflict, projections are changing almost on a daily basis, making it challenging to pin down numbers, with reasonable degree of certainty. However, with more data and hence a deeper understanding of the unravelling events, over the next few weeks, the global GDP growth forecast for 2022 remains under assessment at 4.2%, and will be reviewed and adjusted, when there is more clarity on the far-reaching impact of the geopolitical turmoil. Similarly, all headline economic forecast numbers for 2022 remain under assessment.

World Oil Demand

World oil demand growth in 2021 is revised up by 0.06 mbd, reflecting the actual data across the regions, to now stand at 5.7 mbd. The 4Q21 figure for all OECD region is revised higher, as a result of the better performance. The OECD in 2021 increased by 2.7 mbd, while the non-OECD showed growth of 3.1 mbd. Given the above mentioned developments and the extremely high uncertainty surrounding global macroeconomic performance, the 2022 forecast for global oil demand growth remains under assessment at 4.2 mbd, with OECD forecast at 1.9 mbd and non-OECD at 2.3 mbd. However, this forecast is subject to change in the coming weeks, when there is more clarity on the far-reaching impact of the geopolitical turmoil.

OPEC excerpts on China

Near-term expectations

China's short-term outlook remains mixed as recent New Year spending might have boosted consumption, but the zero-COVID-19 policy and real estate downturn weighed on the economy. Considering the slowing recovery trend, it is likely the government will offer significant policy support in the course of 2022 considering the official announced GDP target of 5.5%. Fiscal policy might be offered in the form of an increase in infrastructure spending and/or tax cuts. Yet the geopolitical tension between Russia and Ukraine, the global supply bottlenecks as well as the anticipated drop in global trade could add additional challenges to the economic recovery.

Near-term expectations

Growth in the Chinese economy is expected to gradually slow down for the year, which is reflected in the forecast of oil demand growth 0.6 mbd y-o-y in 2022, from growth of 1.0 mbd seen in 2021. In the months ahead, domestic jet fuel demand is expected to recover further, once regional lockdowns are eased. The Lunar New Year holiday alongside relaxed travel restrictions is expected to have provided a boost to China's jet fuel demand in February. The number of domestic passenger flights rose by 33.7% y-o-y during the Chunjiyun period this year. Another report from aviation data company OAG said global weekly airline seat capacity bounced back 7% in the week starting 7 February, led by a 33% increase in China, a development that will support the Chinese aviation industry and have a positive impact on jet fuel demand.

Source: OPEC Monthly Oil Market Report March 2022

4 8

Dan Tsubouchi @Energy_Tidbits · Apr 11

#Biden says will India pls stop buying RUS crude oil? #Modi replies no, unless you get #Oil to us at the same big discount. How else can you interpret the #WhiteHouse readout of their call? #OOTT whitehouse.gov/briefing-room/...

BRIEFING ROOM

Readout of President Biden's Call with Prime Minister Modi of India

APRIL 11, 2022 • STATEMENTS AND RELEASES

President Joseph R. Biden, Jr. spoke today with Prime Minister Narendra Modi of India to inaugurate the fourth U.S.-India 2+2 Ministerial Dialogue. Together, they committed to strengthening the U.S.-India relationship through cooperation on clean energy, technology and military cooperation, and expanded economic and people-to-people ties. They also committed to continue cooperation – bilaterally and multilaterally – on ending the COVID-19 pandemic, strengthening global health security, advancing global food security, and ensuring a free and open Indo-Pacific. They emphasized their shared commitment, as leaders of the world's largest democracies, to respect for the sovereignty and territorial integrity of all nations in the Indo-Pacific and beyond. The two Leaders also discussed the destabilizing impacts of Russia's war against Ukraine, with a particular focus on global food supply. President Biden and Prime Minister Modi looked forward to meeting in person later this spring, in Tokyo, for the Quad summit.

1 3

Dan Tsubouchi @Energy_Tidbits · Apr 10

ICYMI, 🇨🇦 @coreconn just birdied 18 to finish -3 and tied for 5th at @TheMasters 2022. last year was T-8. with that progression, should be poised for top 3 at 2023 Masters. he looks so under control on the biggest golf stage.

3 1 7

Dan Tsubouchi @Energy_Tidbits · Apr 10

Our weekly SAF Apr 10, 2022 Energy Tidbits memo is posted on our SAF Group website. This 49-pg energy research memo expands upon & covers more items than tweeted this week. See news/insights section of SAF website #Oil #OOTT #LNG #NatGas #EnergyTransition safgroup.ca/news-insights/

SAF GROUP

Energy Tidbits

April 10, 2022

Produced by: Dan Tsubouchi

Libya's Eastern Military Commanders Urge Haftar to Shut Down Libya Oil Exports

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

This week's memo highlights:

1. Yesterday, Libya's eastern military commanders urged Haftar to shut down Libya oil exports (Click Here)
2. No major surprise big hits against oil and gas in the Liberals Budget 2022 (Click Here)
3. Environment Minister Guilbeault warning suggests Suncor's base mine expansion could be the 1st victim of the Liberals new Emissions Reduction Plan (Click Here)
4. China's ENN signs its 3rd long term LNG supply purchase in 2022, this time from NextDecade (Click Here)
5. Have to wonder if Shell's internal transfer of Montney a set up for LNG Canada Phase 2 in 2022? (Click Here)
6. Please follow us on Twitter at [LINK] for breaking news that ultimately ends up in the weekly Energy Tidbits memo that doesn't get posted until Sunday noon MT.
7. For new readers to our Energy Tidbits and our blogs, you will need to sign up at our blog sign up to receive future Energy Tidbits memos. The sign up is available at [LINK].

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Ryan Haughn, Principal, Energy, rhaughn@safgroup.ca

1 4 14