Energy Tidbits

BlackRock's New "*How to Invest in the Net Zero Transition*" is Positive for Oil and Natural Gas Stocks

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Independent Statistics & Analysis
U.S. Energy Information Administration

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Short-Term Energy Outlook

Forecast highlights

Global liquid fuels

- The February *Short-Term Energy Outlook* (STEO) assumes U.S. GDP grew by 5.7% in 2021 and will grow by 4.2% in 2022 and by 2.8% in 2023. We use the IHS Markit macroeconomic model to generate our U.S. economic assumptions. Global macroeconomic assumptions in this forecast are from Oxford Economics and include global GDP growth of 4.4% in 2022 and 4.0% in 2023, compared with growth of 5.8% in 2021. A wide range of potential macroeconomic outcomes could significantly affect energy markets during the forecast period. In addition, the evolving effects of consumer behavior on energy demand because of the pandemic present a wide range of potential outcomes for energy consumption. Supply uncertainty in the forecast results from the potential for disruptions, the production decisions of OPEC+, and the rate at which U.S. oil and natural gas producers increase drilling.

- Brent crude oil spot prices averaged $87 per barrel (b) in January, a $12/b increase from December 2021. Crude oil prices have risen steadily since mid-2020 as result of consistent draws on global oil inventories, which averaged 1.8 million barrels per day (b/d) from the third quarter of 2020 (3Q20) through the end of 2021. We estimate that global oil inventories fell further in January—compared with our expectation of an increase in last month's STEO—and that commercial inventories in the OECD ended the month at 2.68 billion barrels, which is the lowest level since mid-2014. Oil prices have also risen as result of heightened market concerns about the possibility of oil supply disruptions, notably related to tensions regarding Ukraine, paired with receding market concerns that the Omicron variant of COVID-19 will have widespread effects on oil consumption.

- We expect Brent prices will average $90/b in February as continuing draws in global oil inventories in our forecast keep crude oil prices near current levels in the coming months. However, we expect downward price pressures will emerge in the middle of the year as growth in oil production from OPEC+, the United States, and other non-OPEC countries outpaces slowing growth in global oil consumption. This dynamic leads to rising global oil inventories from 2Q22 through the end of 2023, and we forecast the Brent spot price will fall to an average of $87/b in 2Q22 and $75/b in 4Q22. We expect the Brent price will average $68/b for all of 2023. However, low inventory levels create an environment for potentially heightened crude oil price volatility and potential risk for

Note: EIA completed modeling and analysis for this report on Thursday, February 3, 2022

prices to rise significantly if supply growth does not keep pace with demand growth. Global supply chain disruptions have also likely exacerbated inflationary price effects across all sectors in recent months. How central banks respond to inflation may affect economic growth and oil prices during the forecast period.

- We estimate that 99.0 million b/d of petroleum and liquid fuels was consumed globally in January 2022, an increase of 6.6 million b/d from January 2021. We forecast that global consumption of petroleum and liquid fuels will average 100.6 million b/d for all of 2022, which is up 3.5 million b/d from 2021 and more than the 2019 average of 100.3 million b/d. We forecast that global consumption of petroleum and liquid fuels will increase by 1.9 million b/d in 2023.

- U.S. regular gasoline retail prices averaged $3.31 per gallon (gal) in January, unchanged from December 2021 and up 98 cents/gal from January 2021. Retail diesel prices averaged $3.72/gal in January, up 8 cents/gal from December and up $1.04/gal from last January. Product prices have risen compared with year-ago levels because of rising crude oil prices and high refining margins. We expect diesel prices will average $3.49/gal from 2Q22 through 4Q22. The forecast decline in prices reflects our expectation of falling crude oil prices, particularly in the second half of 2022 (2H22), as well as lower refining margins as refineries increase throughputs in the coming months.

- U.S. crude oil production reached almost 11.8 million b/d in November 2021 (the most recent monthly historical data point), the most in any month since April 2020. We forecast that production will rise to an average of 12.0 million b/d in 2022 and 12.6 million b/d in 2023, which would be record-high production on an annual-average basis. The previous annual average record of 12.3 million b/d was set in 2019.

Natural Gas

- In January, the natural gas spot price at Henry Hub averaged $4.38 per million British thermal units (MMBtu), up from the December average of $3.76/MMBtu. Higher prices in January were a result of colder-than-normal weather in parts of the country, particularly the Northeast and the Midwest where demand increased for natural gas used for space heating and for power generation. STEO uses weather forecasts from the National Oceanic and Atmospheric Administration (NOAA), and NOAA published the forecast we used in this STEO in late January. Temperatures have continued to be cold in parts of the country in early February, which we expect will contribute to Henry Hub prices averaging $4.70/MMBtu for the month. The winter weather forecasts are highly variable and create a significant amount of uncertainty in our price forecast. In addition, global demand for U.S. liquefied natural gas (LNG) has remained high, limiting some of the downward pressure on natural gas prices. We expect natural gas prices could remain volatile over the coming months, and the way that temperatures affect natural gas demand in February and March will be a key driver of how inventories end the

withdrawal season, which will be important for natural gas price formation in the coming months.

- We estimate that U.S. LNG exports averaged 11.2 billion cubic feet per day (Bcf/d) in January 2022, up from 10.4 Bcf/d in 4Q21, supported by large price differences between the Henry Hub price in the United States and spot prices in Europe and Asia. In particular, inventories in Europe remain much lower than their five-year averages and are contributing to strong demand for LNG imports. We expect high levels of U.S. LNG exports to continue into 2022, averaging 11.3 Bcf/d for the year, a 16% increase from 2021. The forecast reflects our assumptions that global natural gas demand remains strong and that expected additional U.S. LNG export capacity comes online.

- Colder-than-normal temperatures in January resulted in U.S. natural gas inventories falling below the five-year average to end the month at 2.3 trillion cubic feet (Tcf). We expect natural gas inventories to fall by about 730 Bcf for the rest of the withdrawal season, ending March just below 1.6 Tcf, which would be 8% less than the 2017–21 average for that time of year.

- We expect U.S. consumption of natural gas will average 105.2 billion cubic feet per day (Bcf/d) in February, down 3% from February 2021. Consumption in our forecast declines the most in the residential and commercial sectors, where consumption will average a combined 43.8 Bcf/d, down 10% from last February. We forecast electric power section consumption will be 27.8 Bcf/d in February, down 1% from last February. The changes are partly offset by industrial sector consumption, which grows by 4% from February 2021 in the forecast to average 24.8 Bcf/d for the month.

- We estimate dry U.S. natural gas production averaged 95.5 Bcf/d in the United States in January, down 2.1 Bcf/d from December 2021. Production in January was lower due, in some part, to freezing temperatures in certain production regions. We forecast natural gas production to average 95.6 Bcf/d in February and 96.1 Bcf/d for all of 2022, driven by natural gas and crude oil price levels that we expect will be sufficient to support enough drilling to sustain production growth. We expect production to rise to an average of 98.0 Bcf/d in 2023.

Electricity, coal, renewables, and emissions

- We forecast that the share of U.S. electric power sector generation produced by natural gas will average 35% in 2022 and 2023, down from 37% in 2021. The estimated cost of natural gas delivered to power generators averaged $4.97/MMBtu in 2021, and we expect it to fall to $4.16/MMBtu in 2022 and $3.86/MMBtu in 2023. Despite the forecast decline in fuel costs, the share of electricity generation from natural gas declines in the forecast because of growth in renewable generation. We expect the renewable generation share to increase from 20% in 2021 to 22% in 2022 and 24% in

2023. Increasing renewable generation contributes to our forecast that the share of generation from coal will decline from 23% in 2021 to an average of 22% over the next two years. Forecast generation from nuclear remains relatively constant through the forecast at an average generation share of 20%.

- We expect U.S. coal production to increase by almost 28 million short tons (MMst) (5%) in 2022 to 606 MMst and then rise by 18 MMst (3%) in 2023. Producers in the Powder River Basin have increased employment at mines in recent months to boost production to meet domestic demand, but we expect tight supply conditions to remain through the remainder of the year. We expect U.S. coal consumption to decrease by 2 MMst in 2022 as a 5 MMst (1%) decline in consumption from the electric power sector is somewhat offset by a 2 MMst (14%) increase in consumption for coke plants. Exports are expected to increase by 3 MMst (4%) in 2022 because international prices continue to be high for U.S. coal.

- 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 16.3 gigawatts (GW) of new wind capacity in 2021. We expect 7.6 GW of new wind capacity will come online in 2022 and 4.3 GW in 2023. Utility-scale solar capacity rose by an estimated 13.9 GW in 2021. Our forecast for added utility-scale solar capacity is 21.8 GW for 2022 and 24.1 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 capacity (from systems less than 1 megawatt) increased by 5.1 GW to 32.7 GW. We project that small-scale solar will grow by 4.4 GW per year in both 2022 and 2023.

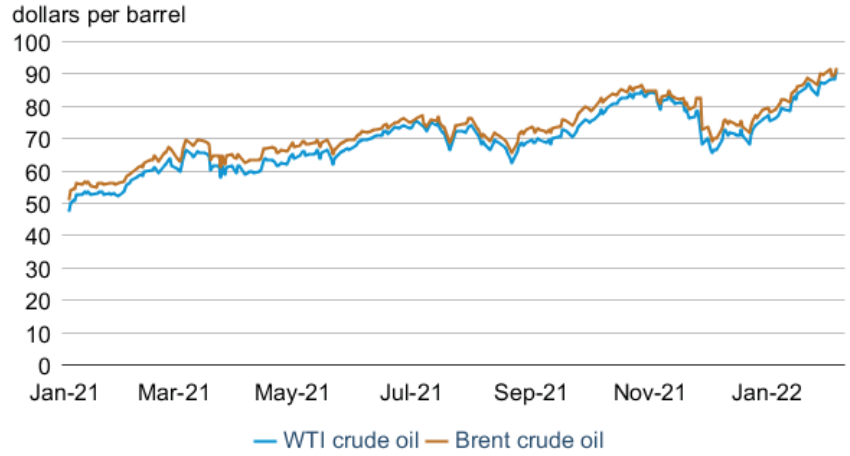
- U.S. energy-related carbon dioxide (CO_2) emissions increased by more than 6% in 2021 as economic activity increased and contributed to rising energy use. We expect a 2% increase in energy-related CO_2 emissions in 2022, primarily from growing transportation-related petroleum consumption. Forecast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

Petroleum and natural gas markets review

Crude oil

Prices: The front-month futures price for Brent crude oil settled at $91.11 per barrel (b) on February 3, 2022, an increase of $12.13/b from the January 3, 2022, price of $78.98/b. The front-month futures price for West Texas Intermediate (WTI) crude oil for delivery at Cushing, Oklahoma, increased by $14.19/b during the same period, settling at $90.27/b on February 3 **(Figure 1)**.

Figure 1. Crude oil front-month futures prices



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

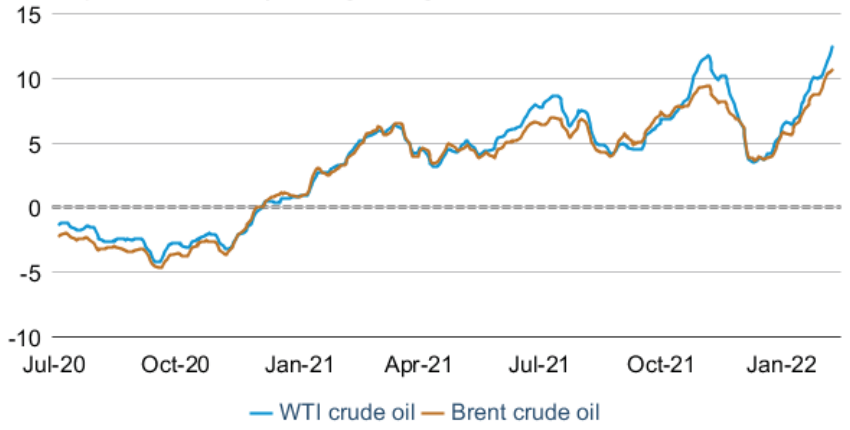
Brent crude oil prices increased throughout January as persistent global oil inventory draws and geopolitical tensions contributed to market concerns about disruptions to oil production. On several days in late-January and early February the nominal (not adjusted for inflation) front-month Brent price reached more than $90/b for the first time since October 2014. Global oil consumption has exceeded global oil supply since mid-2020, leading to six consecutive quarters of global oil inventory draws. We estimate global oil inventories declined again in January, contributing to commercially held inventories in OECD countries reaching the lowest levels since mid-2014. A major contributing factor to the low global oil inventories is some OPEC+ countries producing less than their targeted amounts due to operational difficulties ramping up production. During 4Q21, we estimate that the 10 OPEC countries subject to production targets produced less than those targets by a combined average of more than 0.6 million barrels per day (b/d).

More recently, geopolitical conflicts have also put upward pressure on oil prices. Prices can be more sensitive to concerns about supply disruptions during periods of low inventories. Tensions related to Ukraine have increased market concerns about the possibility of oil supply disruptions. In the Middle East, several missile attacks on Abu Dhabi—one of which hit a fuel

storage facility— has added to uncertainties for future oil supply, which may also be affected by political unrest in Libya and Kazakhstan. Libya's oil production has increased following blockades that shut in crude oil production in late December and early January, and production in Kazakhstan has increased following disruptions that occurred during protests from January 2–January 11 related to higher liquefied petroleum gas prices. Concerns about low oil inventories and potential supply disruptions have outweighed downward price pressure from China's announcement that it will release crude oil from its national strategic stockpiles.

Although the front-month Brent crude oil price reached more than $90/b at times in late-January, longer-dated contracts did not increase as much. This wide backwardation (when near-month prices are higher than longer-dated ones) suggests market participants are paying higher prices to secure oil from available inventories amid the large imbalance between supply and demand. The five-day moving average of the spread between prices for the 1st month futures contract and the 13th month contract for Brent widened to $10.46/b on February 3, from $5.62/b on January 3, and the spread between the 1st month futures contract and 13th month contract for WTI was even higher at $11.88/b on February 3, an increase from $6.45/b on January 3 **(Figure 2)**.

Figure 2. Crude oil front-month to 13th month futures price spread
dollars per barrel, five-day moving average

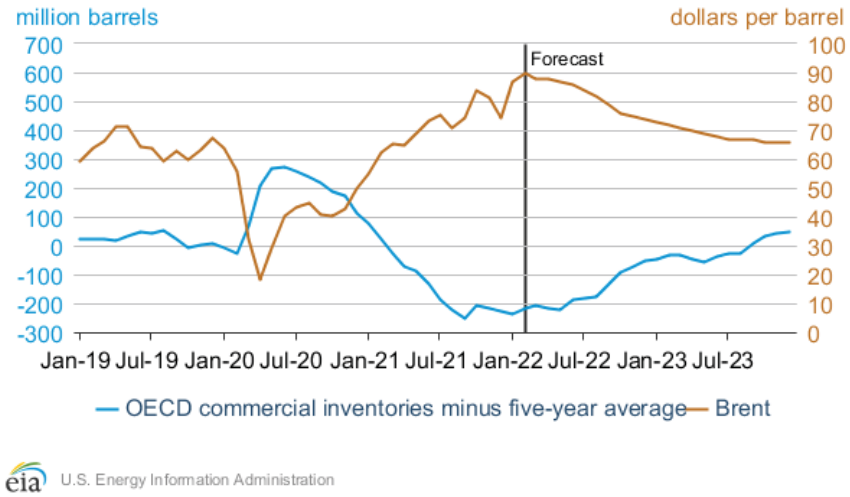


Source: Graph by EIA, based on data from CME Group and Intercontinental Exchange, as compiled by Bloomberg
Note: WTI=West Texas Intermediate

We forecast global inventory draws in February, with an average Brent spot price of $90/b. However, we expect oil inventories will begin rebuilding in March and continue throughout the forecast, which will result in lower crude oil prices. We forecast the Brent crude oil price to decrease to an average of $87/b in 2Q22 and $75/by 4Q22. We expect the Brent spot price to average $68/b in 2023. We estimate that OECD commercial inventories in January 2022 were 270 million barrels (9%) below their five-year (2017–2021) January average and that absolute inventory levels were at their lowest level since 2014 **(Figure 3)**. We forecast OECD commercial inventories will increase to their five-year average by mid-2023. Although we expect inventories to rise, the low inventory levels in recent months will likely limit downward price pressure for

much of the first half of 2022 (1H22). In addition, until inventories move closer to five-year average levels, the potential for a supply disruption to significantly affect price levels and volatility is greater. Inventory growth in the forecast is driven by rising global oil production, largely from OPEC+ and the United States, along with slowing growth in global oil consumption. Our expectation of falling oil prices, particularly beyond 1H22, is contingent on our forecast of oil production and inventory growth. However, oil production might not meet our expectations because of possible changes in production targets from OPEC+, continuing technical issues among some producers, and changes in the investment decisions of U.S. tight oil operators, among other possible reasons.

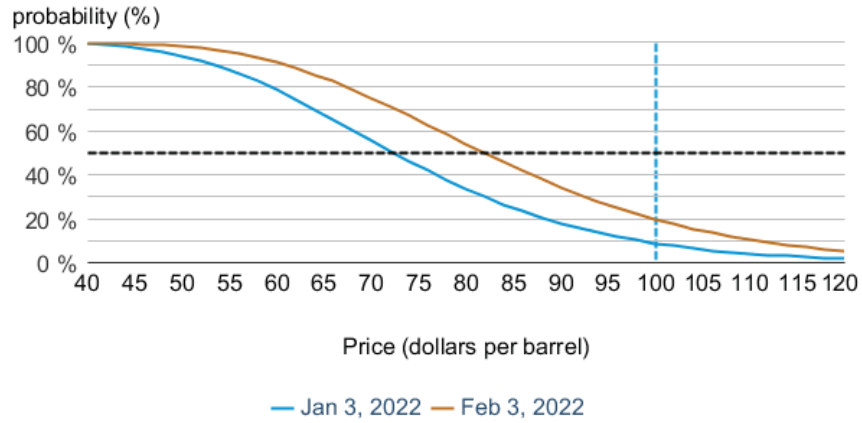
Figure 3. OECD commercial liquid inventories minus five-year average and Brent price



U.S. Energy Information Administration

Market-derived probabilities: Crude oil prices continue to be subject to high levels of uncertainty due to COVID-19-related end-user behavior, geopolitical factors, and other disruptions to global oil supply and demand. Market-derived price probabilities that are based on futures and options prices reflect this price uncertainty. As of February 3, the probability of the June 2022 WTI contract expiring at more than $90/b was 34% **(Figure 4)**. Furthermore, market participants increased trading in call options with strike prices of $100/b throughout much of January. A *call option* is a financial instrument that gives the owner the right, but not the obligation, to purchase WTI futures at a certain price by an expiration date. Call options increase in value when the WTI futures price increases. The market-derived probability of $100/b WTI for the June contract increased from 8% on January 3 to 19% on February 3. Open interest for June WTI call options with a strike price of $100/b increased from 18,079 contracts on January 3 to 23,911 contracts on February 3. Trading volume increased from an average of 862 contracts per day in the first half of the month (January 3–January 14) to an average of 1,544 contracts per day in the second half of the month (January 17–January 31). Although the market-derived price probability of $100/b WTI crude oil has increased, the probability of it expiring at less than $70/b is slightly higher, at 25%. These large differences in market-derived probabilities reflect the significant uncertainty and high volatility in the oil market.

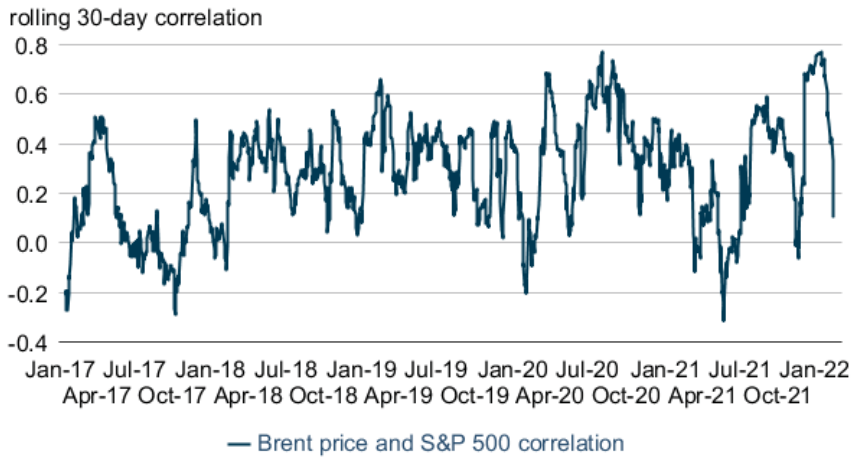
Figure 4. Probability of June 2022 WTI futures contracts expiring above different price levels



U.S. Energy Information Administration, CME Group
Note: WTI=West Texas Intermediate

Brent Price and S&P 500 correlation: Typically, the correlation between equity prices and crude oil prices are highest when demand-side factors, such as global economic growth, are driving crude oil prices. In recent weeks, the correlation between daily price changes in the S&P 500, an equity index of widely traded U.S. public companies, and Brent crude oil has decreased from a multiyear high reached on January 4. Since January 2017, the rolling 30-day correlation between the S&P 500 and Brent crude oil has been higher than 0.75 on two occasions **(Figure 5)**. The first occasion was in July 2020, when both the S&P 500 and the Brent crude oil price were increasing from their low points following the onset of the COVID-19 pandemic. The second occasion was in December 2021 and early January 2022, when equities, oil, and many other commodities were beginning to return to normal levels following a demand shock that began on November 26 when the World Health Organization designated the SARS-CoV-2 Omicron variant as a concern.

Figure 5. Brent price and S&P 500 correlation

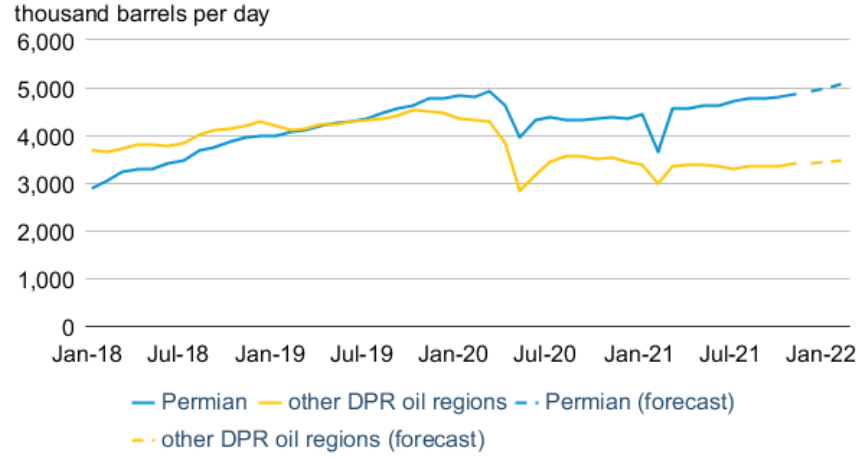


Source: Graph by EIA, based on data from Bloomberg L.P.

The correlation between the S&P 500 and Brent crude oil has been steeply decreasing since mid-January as concerns about the Omicron variant have lessened and factors more specific to the oil market have caused trends in crude oil prices to deviate from those of the S&P 500. Although the stock market and S&P 500 have been generally decreasing in reaction to changing expectations that the Federal Reserve may increase interest rates in 2022 more than previously expected, low oil inventories and the possibility that geopolitical issues could affect crude oil supply have been driving crude oil prices higher. As of February 3, the rolling 30-day correlation between the two was 0.11, the lowest it has been since the November 26 Omicron announcement.

U.S. production by region: After averaging 7.7 million b/d in the first half of 2021, according to our *Drilling Productivity Report*, U.S. crude oil production in all major shale regions increased to 8.2 million b/d in the second half of the year, largely because of rising production in the Permian Basin. Increases in well completions and rig counts in the Permian Basin have led to record production in that area, with forecasted oil production in the Permian Basin exceeding 5.0 million b/d for February 2022 **(Figure 6)**. The region's favorable geology combined with technological and operational improvements have supported the record production levels. In contrast to the record production in the Permian Basin, we expect production in other shale basins to average almost 3.5 million b/d in February, which is nearly 1.1 million b/d less than the record for production in these regions set in October 2019. The lack of growth and recovery in these other regions reflects more investments flowing to the Permian Basin than to other basins. According to Baker Hughes rig counts, from January 29, 2021, to January 28, 2022, the number of oil-directed rigs in the Permian Basin increased from 192 to 293. In the entire United States, the oil-directed rig count had increased by 200 during that period, meaning rig count growth in the Permian Basin accounts for more than half of the U.S. total.

Figure 6. Oil production by region

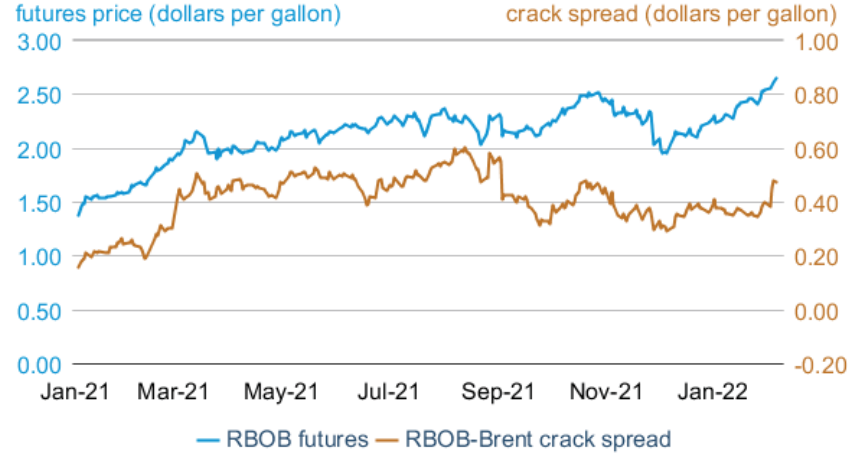


Note: other DPR regions are the Anadarko, Appalachia, Bakken, Eagle Ford, Haynesville, and Niobrara basins.
Source: Drilling Productivity Report, January 2022

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 $2.64 per gallon (gal) on February 3, up 39 cents/gal from January 3 **(Figure 7)**. The RBOB–Brent crack spread (the difference between the price of RBOB and the price of Brent crude oil) settled at 47 cents/gal on February 3, up 10 cents/gal from the start of January. The average RBOB–Brent crack spread in January was 37 cents/gal, 1 cent/gal higher than the average spread in December.

Figure 7. Historical RBOB front-month futures prices and crack spreads

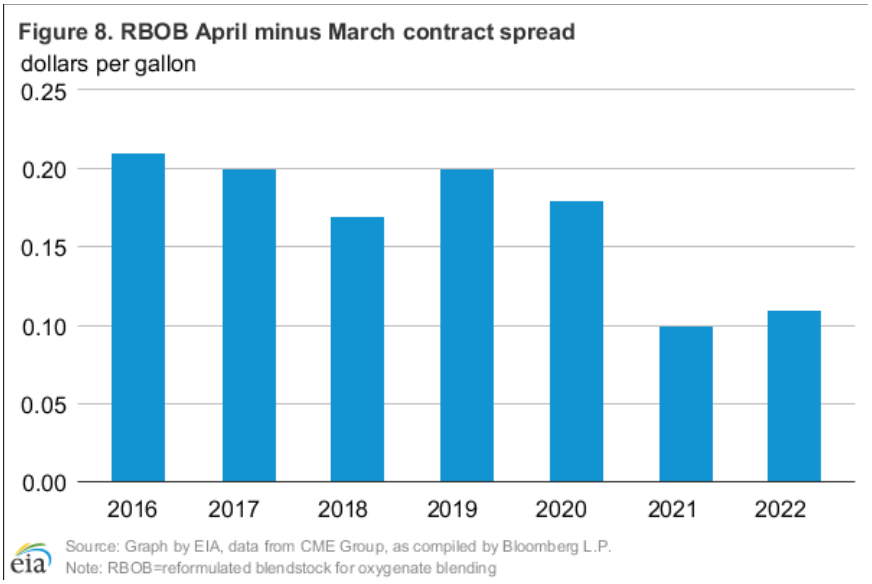


Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.
Note: RBOB is the petroleum component of gasoline used in many parts of the country.

The RBOB–Brent crack spread remains wider than the five-year average for this time of year, continuing a trend of above-average crack spreads since January 2021. Since August, every

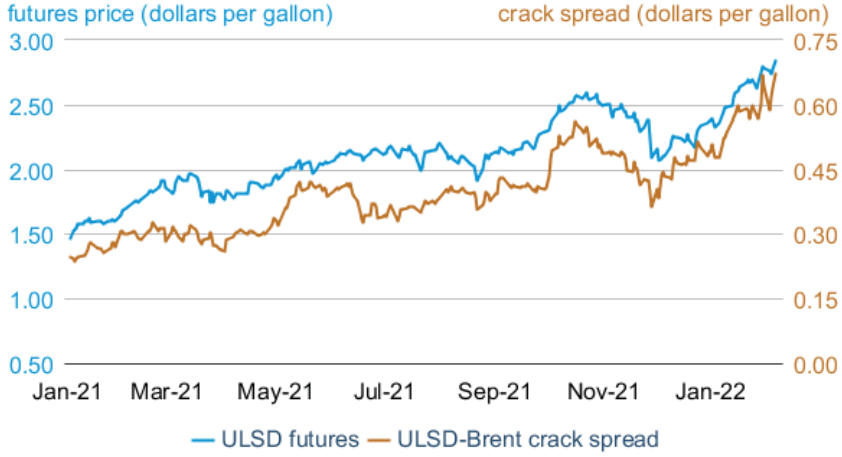
month was a record crack spread for that month in data going back to 2008. January's crack spread is more than double the five-year average. Rising crude oil prices and relatively low gasoline production contributed to higher front-month RBOB prices. Rapidly increasing crude oil prices typically reduce product crack spreads, but lower-than-average inventories are supporting these higher crack spreads.

March to April RBOB contract spread: The RBOB futures contract for April delivery is the first contract during the year that trades summer-grade gasoline, which is more expensive to produce and typically trades at higher prices than winter-grade gasoline. As a result, April contracts trade at a premium to March contracts. The 2016–2020 average spread during January trading between RBOB contracts for April delivery and RBOB contracts for March delivery was 19 cents/gal (**Figure 8**). This year the spread was 11 cents/gal, similar to the spread last year and only 1 cent/gal higher than the lowest spread recorded, which occurred in 2010. The relatively low spread could indicate new streamlining rules for testing summer-grade gasoline that the U.S. Environmental Protection Agency rolled out last year to make it easier to transition from winter to summer specifications has led to lower RBOB prices for summer-grade gasoline.



Ultra-low sulfur diesel prices: The front-month futures price for ultra-low sulfur diesel (ULSD) for delivery in New York Harbor settled at $2.84/gal on February 3, a 48 cents/gal increase from January 3 **(Figure 9)**. The ULSD-Brent crack spread (the difference between the price of ULSD and the price of Brent crude oil) increased 19 cents/gal during the same period and settled at 67 cents/gal on February 3.

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



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

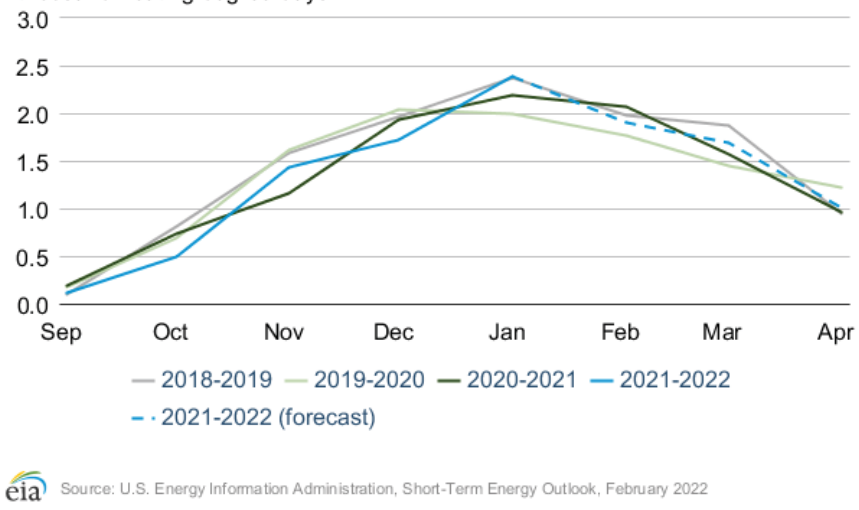
The ULSD–Brent crack spread in January averaged 57 cents/gal, up 10 cents/gal from December 2021 and up 31 cents/gal from January 2021. Rising crude oil prices throughout January contributed to the increase in outright ULSD prices, while seasonal demand for heating oil in the U.S. Northeast and mid-Atlantic regions related to cold temperatures contributed to more demand for distillate fuel oil. Lower ULSD inventories and the increasing ULSD crack spread may result from less refinery production and potential reductions in distillate yields to increase jet fuel production compared with December.

We estimate U.S. distillate consumption in January was 4.4 million b/d in January, an increase of 0.3 million b/d from December 2021, and 0.4 million b/d more than January 2021. Although more than last year, distillate consumption is at a similar level to January 2019 and is less than January 2018. We expect distillate consumption to decrease in the coming months as the weather becomes milder. Distillate inventories ended January at 123 million barrels, 19% below the five-year average. We expect continued draws on distillate inventories until June as low refinery production during turnaround season constrains production while demand for road diesel persists. Low distillate inventories, combined with high crude oil prices will contribute to higher ULSD prices, and we expect wholesale ULSD prices to remain above $2/gal through the rest of 2022 and 2023.

The increase in U.S. distillate consumption in January was driven by colder weather. We measure the effects of winter weather on energy markets by analyzing heating degree days (HDDs). The more HDDs, the colder the weather. In New England (PADD 1A) and the mid-Atlantic (PADD 1B), heating oil remains a substantial source in the energy mix in the residential home-heating sector, unlike much of the United States where home heating is primarily provided by natural gas or electricity. December 2021 temperatures in New England and the mid-Atlantic were relatively mild compared with previous seasons, and HDDs totaled 1,722 for the month, which was fewer than the past three winters and 186 HDDs fewer than the 10-year

average **(Figure 10)**. January weather was cold, and HDDs increased to 2,485 HDDs, 204 HDDs more than the 10-year average. We forecast warmer weather in the coming months will lead to fewer HDDs and, as a result, less home heating oil consumption in the Northeast and mid-Atlantic.

Figure 10. U.S. Northeast (PADD 1A+1B) Heating Degree Days



Source: U.S. Energy Information Administration, Short-Term Energy Outlook, February 2022

ULSD front 13th month spread: The spread between the front-month and the 13th month price for ULSD futures is a measure of the value of ULSD delivered in the near term compared with ULSD for delivery one year in the future. A large price spread typically indicates a market in which demand exceeds supply, leading to draws on inventories. The spread climbed rapidly in January, reaching its widest level since 2014, at 35 cents/gal as of February 3 **(Figure 11)**. The wide spread is related to distillate inventories that were 19% below the five-year (2017–2021) average for the week ending January 28, according to our *Weekly Petroleum Status Report*. The wide spread between the front-month and the 13th month contracts for crude oil is a contributing factor to the wide ULSD spread for the same contracts. Typically, the spread for ULSD is narrower than the spread for crude oil, however in January 2022, the spread for ULSD exceeded Brent crude oil by an average of 4 cents. The substantial role of seasonally related weather demand is an important element of the current high prices, and we expect that U.S. distillate consumption will decline in the coming months while refinery production of distillate will increase.

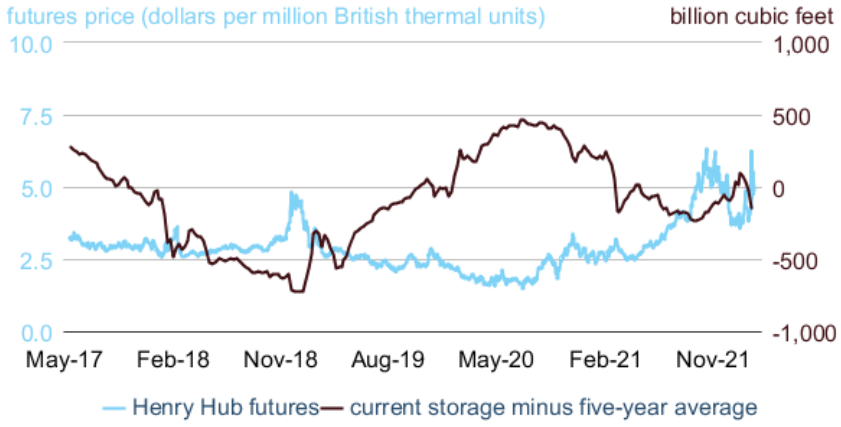
Figure 11. ULSD front-month to 13th month futures price spread

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

Natural Gas

Prices: The front-month natural gas futures contract for delivery at the Henry Hub settled at $4.89 per million British thermal units (MMBtu) on February 3, 2022, which was up $1.07/MMBtu from January 3, 2022 **(Figure 12)**. The average closing price for front-month natural gas futures contracts in January was $4.26/MMBtu, the highest January monthly average in real terms since January 2014.

Figure 12. U.S. natural gas front-month futures prices and current storage deviation from five-year average



Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.

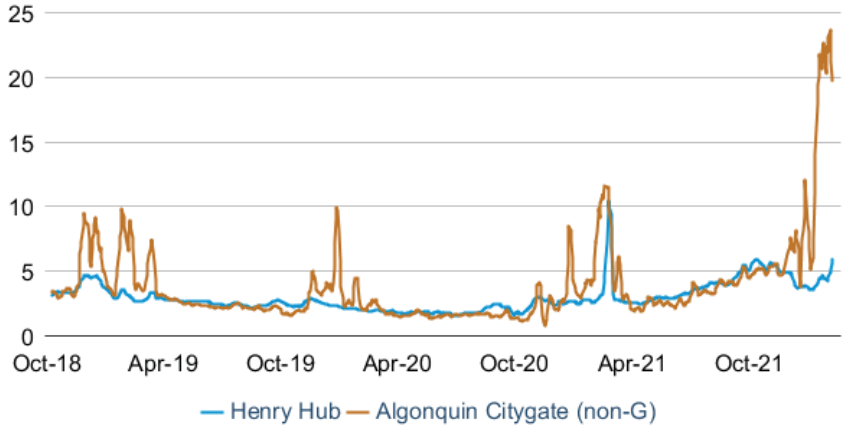
The average price for front-month natural gas futures contracts in January was 40 cents higher than the December average closing price of $3.86/MMBtu. January was colder than December, which resulted in greater use of natural gas for space heating in the residential and commercial sectors. December 2021 was much warmer than normal, and natural gas withdrawals from

storage were below the five-year average (2016–2020), which contributed to lower natural gas prices throughout the month. In January, colder-than-normal temperatures resulted in storage withdrawals that exceeded the five-year average (2017–2021) by 219 Bcf in order to meet the demand for both space heating and electric power burn. We forecast that combined demand in the residential and commercial sectors in January averaged 48.4 Bcf/d, which is 14.5 Bcf/d more than December 2021 and 3.0 Bcf/d more than the January five-year average.

Record U.S. liquefied natural gas (LNG) exports, increased power demand, and a decline in January natural gas production all contributed to above-average storage withdraws in January, putting upward pressure on prices. In January, U.S. LNG exporters continued to operate at maximum capacity, resulting in exports above 11 Bcf/d for the second consecutive month. We estimate LNG exports averaged 11.2 Bcf/d in January as the new Train 6 at Sabine Pass LNG continues to ramp up production. Continued strong demand for LNG imports in Europe and Asia supports facilities operating at maximum capacity. In addition to more LNG exports, we estimate that demand for natural gas used to generate electric power averaged 31.0 Bcf/d in January, 2.9 Bcf/d more than last year. Lastly, we estimate that U.S. dry natural gas production declined in January, averaging 95.5 Bcf, 2.1 Bcf/d less than December. Cold temperatures and freeze-offs in certain producing areas likely contributed to the decline in production.

The cold weather particularly affected New England, where well-below-normal temperatures led to increased natural gas consumption in the region. In addition, natural gas pipeline supply into New England is constrained, particularly during peak demand periods in the winter. Due to strong demand for natural gas this winter, the spot price at the Algonquin Citygate—a benchmark hub for the natural gas price in New England—exceeded $20/MMBtu on several days **(Figure 13)** and averaged $20.55/MMBtu in January—the highest monthly average price since February 2014. In the past three winters, the monthly average spot price at Algonquin Citygate traded between $3/MMBtu and $6/MMBtu, and the daily price never exceeded $14/MMBtu for any of the three winters. In contrast to the high prices this winter in the Northeast, the daily spot price at Henry Hub averaged $4.38/MMBtu in January.

Figure 13. U.S. and New England natural gas prices (five-day rolling average)
dollars per million British thermal units



Source: Graph by EIA, based on data from CME Group, as compiled by Bloomberg L.P.

Notable forecast changes

- We forecast the Brent crude oil spot price will average $83/b in 2022, which is $8/b more than we forecast in the January STEO. The higher price forecast partly reflects a reduction in our forecast of OECD inventories in 1H22. Although we continue to expect crude oil prices to decline beginning in March, crude oil price increases over the past month mean that declines will begin from a higher price level, which also contributes to higher crude oil price levels in our forecast throughout 2022. The increase in crude oil prices in the forecast also results in higher prices for gasoline and diesel fuel in 2022 compared with last month's forecast. It also results in more U.S crude oil production compared with last month's forecast.

- Based on data from the Federal Highway Administration, we updated and released historical data for vehicle miles traveled in the STEO. The latest data reflect more vehicle miles traveled in 2021 than previously reported, which increased our estimates of vehicle efficiency. As a result, we increased our forecasts for vehicle miles traveled and vehicle efficiency. The revisions to vehicle efficiency, however, were more significant and drove our forecast gasoline consumption down in both 2022 and 2023. In 2022, we now forecast that gasoline consumption in the United States will average 8.9 million b/d, down from 9.1 million b/d in the January STEO. In our February STEO, we forecast that gasoline consumption in 2023 will average 9.0 million b/d, down from a forecast of 9.1 million b/d in the January STEO.

- Beginning with this STEO, we will provide new forecasts for biodiesel, renewable diesel, and other biofuels, which includes fuels such as renewable jet fuel and renewable naphtha. In our custom table builder, we will provide production, consumption, and net imports for each of these fuels. The changes reflect the inclusion of these series in Table

10.4 of the *Monthly Energy Review* (MER) beginning in mid-2021. Related to this change, we have added a line for consumption (product supplied) of other hydrocarbons and oxygenates in Table 4a of STEO. *Product supplied of other hydrocarbons and oxygenates* is a category that includes biodiesel, renewable diesel, and other biofuels, which in the *Petroleum Supply Monthly* (PSM) are collectively called *renewable fuels excluding fuel ethanol*. In the PSM, product supplied of renewable fuels excluding fuel ethanol plus refinery and blender net inputs of renewable fuels excluding fuel ethanol is equal to the consumption of biodiesel, renewable diesel, and other biofuels as reported in MER.

- For more information, see 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 - February 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**	**30.75**	**31.07**	**32.32**	*32.44*	*32.66*	*32.87*	*33.47*	*33.79*	*33.95*	*33.93*	*34.26*	**31.06**	*32.86*	*33.98*
U.S. (50 States)	**17.62**	**19.05**	**18.94**	**19.89**	*19.81*	*20.15*	*20.51*	*20.84*	*20.93*	*21.16*	*21.26*	*21.44*	**18.88**	*20.33*	*21.20*
Canada	**5.62**	**5.37**	**5.49**	**5.77**	*5.87*	*5.83*	*5.85*	*5.87*	*5.91*	*5.88*	*5.89*	*5.90*	**5.56**	*5.85*	*5.90*
Mexico	**1.93**	**1.95**	**1.90**	**1.92**	*1.96*	*1.93*	*1.90*	*1.86*	*1.90*	*1.86*	*1.83*	*1.79*	**1.92**	*1.91*	*1.85*
Other OECD	**4.91**	**4.38**	**4.74**	**4.73**	*4.80*	*4.75*	*4.61*	*4.90*	*5.04*	*5.05*	*4.95*	*5.13*	**4.69**	*4.77*	*5.04*
Non-OECD	**62.41**	**63.78**	**65.39**	**66.02**	*67.15*	*68.43*	*69.37*	*69.13*	*68.97*	*69.57*	*69.90*	*69.51*	**64.41**	*68.53*	*69.49*
OPEC	**30.24**	**30.75**	**32.15**	**33.07**	*33.75*	*33.96*	*34.40*	*34.53*	*34.65*	*34.51*	*34.50*	*34.49*	**31.56**	*34.16*	*34.53*
Crude Oil Portion	**25.08**	**25.49**	**26.84**	**27.66**	*28.17*	*28.51*	*28.89*	*28.99*	*29.09*	*29.07*	*29.01*	*28.96*	**26.28**	*28.64*	*29.03*
Other Liquids (b)	**5.16**	**5.26**	**5.31**	**5.41**	*5.58*	*5.46*	*5.50*	*5.54*	*5.56*	*5.44*	*5.49*	*5.52*	**5.29**	*5.52*	*5.50*
Eurasia	**13.38**	**13.61**	**13.58**	**14.23**	*14.43*	*14.60*	*14.75*	*14.91*	*14.98*	*14.91*	*14.95*	*15.06*	**13.70**	*14.67*	*14.97*
China	**4.99**	**5.03**	**5.01**	**4.94**	*5.01*	*5.04*	*5.04*	*5.08*	*5.06*	*5.09*	*5.08*	*5.13*	**4.99**	*5.04*	*5.09*
Other Non-OECD	**13.79**	**14.39**	**14.65**	**13.78**	*13.96*	*14.82*	*15.18*	*14.61*	*14.28*	*15.07*	*15.37*	*14.83*	**14.15**	*14.65*	*14.89*
Total World Production	**92.47**	**94.53**	**96.46**	**98.33**	*99.59*	*101.09*	*102.24*	*102.60*	*102.76*	*103.51*	*103.83*	*103.77*	**95.47**	*101.39*	*103.47*
Non-OPEC Production	**62.23**	**63.78**	**64.31**	**65.26**	*65.84*	*67.13*	*67.84*	*68.06*	*68.11*	*69.01*	*69.33*	*69.28*	**63.91**	*67.23*	*68.94*
Consumption (million barrels per day) (c)															
OECD	**42.30**	**43.98**	**45.68**	**46.01**	*45.82*	*45.45*	*46.33*	*46.62*	*46.03*	*45.90*	*46.67*	*46.97*	**44.51**	*46.06*	*46.40*
U.S. (50 States)	**18.45**	**20.03**	**20.21**	**20.39**	*20.23*	*20.56*	*20.83*	*20.98*	*20.45*	*21.00*	*21.13*	*21.21*	**19.78**	*20.66*	*20.95*
U.S. Territories	**0.20**	**0.18**	**0.18**	**0.19**	*0.20*	*0.18*	*0.19*	*0.20*	*0.19*	*0.17*	*0.17*	*0.18*	**0.19**	*0.19*	*0.18*
Canada	**2.12**	**2.16**	**2.41**	**2.37**	*2.31*	*2.29*	*2.41*	*2.38*	*2.38*	*2.33*	*2.43*	*2.41*	**2.27**	*2.35*	*2.39*
Europe	**11.91**	**12.62**	**13.83**	**13.55**	*13.20*	*13.34*	*13.68*	*13.34*	*13.19*	*13.35*	*13.75*	*13.52*	**12.98**	*13.39*	*13.45*
Japan	**3.73**	**3.08**	**3.18**	**3.47**	*3.73*	*3.08*	*3.19*	*3.52*	*3.65*	*3.05*	*3.15*	*3.47*	**3.37**	*3.38*	*3.33*
Other OECD	**5.89**	**5.91**	**5.87**	**6.05**	*6.14*	*6.00*	*6.04*	*6.20*	*6.17*	*6.01*	*6.04*	*6.18*	**5.93**	*6.09*	*6.10*
Non-OECD	**51.79**	**52.21**	**52.52**	**53.69**	*53.88*	*54.60*	*54.77*	*54.94*	*56.19*	*56.40*	*56.00*	*55.73*	**52.56**	*54.55*	*56.08*
Eurasia	**4.65**	**4.72**	**5.08**	**4.94**	*4.84*	*4.90*	*5.26*	*5.13*	*4.83*	*5.00*	*5.33*	*5.24*	**4.85**	*5.03*	*5.10*
Europe	**0.74**	**0.74**	**0.74**	**0.76**	*0.76*	*0.76*	*0.77*	*0.78*	*0.76*	*0.78*	*0.78*	*0.79*	**0.74**	*0.77*	*0.78*
China	**15.26**	**15.46**	**14.98**	**15.32**	*15.52*	*15.92*	*15.65*	*15.89*	*16.65*	*16.54*	*15.91*	*15.83*	**15.25**	*15.74*	*16.23*
Other Asia	**13.60**	**13.15**	**13.01**	**13.89**	*14.08*	*14.22*	*13.83*	*14.21*	*14.89*	*14.87*	*14.27*	*14.58*	**13.41**	*14.08*	*14.65*
Other Non-OECD	**17.55**	**18.12**	**18.71**	**18.79**	*18.68*	*18.80*	*19.26*	*18.94*	*19.06*	*19.22*	*19.70*	*19.30*	**18.30**	*18.92*	*19.32*
Total World Consumption	**94.09**	**96.19**	**98.20**	**99.70**	*99.70*	*100.04*	*101.10*	*101.56*	*102.23*	*102.30*	*102.67*	*102.70*	**97.07**	*100.61*	*102.48*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.47**	**0.51**	**0.37**	**0.84**	*0.25*	*-0.69*	*-0.15*	*0.35*	*0.08*	*-0.54*	*-0.26*	*0.59*	**0.55**	*-0.06*	*-0.03*
Other OECD	**0.81**	**0.13**	**0.96**	**0.15**	*-0.04*	*-0.11*	*-0.31*	*-0.44*	*-0.19*	*-0.21*	*-0.28*	*-0.52*	**0.51**	*-0.23*	*-0.30*
Other Stock Draws and Balance	**0.35**	**1.02**	**0.40**	**0.38**	*-0.10*	*-0.25*	*-0.67*	*-0.95*	*-0.43*	*-0.47*	*-0.62*	*-1.13*	**0.54**	*-0.49*	*-0.66*
Total Stock Draw	**1.62**	**1.66**	**1.74**	**1.37**	*0.11*	*-1.05*	*-1.13*	*-1.04*	*-0.53*	*-1.21*	*-1.16*	*-1.07*	**1.60**	*-0.78*	*-1.00*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,302**	**1,271**	**1,241**	**1,188**	*1,190*	*1,261*	*1,275*	*1,250*	*1,251*	*1,307*	*1,327*	*1,284*	**1,188**	*1,250*	*1,284*
OECD Commercial Inventory	**2,911**	**2,868**	**2,749**	**2,682**	*2,688*	*2,769*	*2,812*	*2,828*	*2,845*	*2,921*	*2,967*	*2,972*	**2,682**	*2,828*	*2,972*

(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 February 3, 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 - February 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**	**11.69**	*11.67*	*11.86*	*12.06*	*12.27*	*12.46*	*12.54*	*12.63*	*12.75*	**11.20**	*11.97*	*12.60*
Alaska	**0.46**	**0.44**	**0.41**	**0.44**	*0.42*	*0.36*	*0.38*	*0.40*	*0.41*	*0.36*	*0.39*	*0.41*	**0.44**	*0.39*	*0.39*
Federal Gulf of Mexico (b)	**1.80**	**1.79**	**1.49**	**1.80**	*1.84*	*1.83*	*1.79*	*1.81*	*1.88*	*1.87*	*1.79*	*1.79*	**1.72**	*1.82*	*1.83*
Lower 48 States (excl GOM)	**8.44**	**9.05**	**9.24**	**9.46**	*9.41*	*9.67*	*9.89*	*10.06*	*10.17*	*10.31*	*10.45*	*10.55*	**9.05**	*9.76*	*10.37*
Crude Oil Net Imports (c)	**2.87**	**2.96**	**3.60**	**3.23**	*3.63*	*4.21*	*4.35*	*3.40*	*2.71*	*4.00*	*4.19*	*2.80*	**3.17**	*3.90*	*3.43*
SPR Net Withdrawals	**0.00**	**0.18**	**0.04**	**0.26**	*0.27*	*0.10*	*0.00*	*0.08*	*0.09*	*0.09*	*-0.04*	*0.11*	**0.12**	*0.11*	*0.06*
Commercial Inventory Net Withdrawals	**-0.18**	**0.59**	**0.30**	**0.03**	*-0.30*	*-0.09*	*0.22*	*-0.05*	*-0.35*	*-0.09*	*0.07*	*0.07*	**0.19**	*-0.05*	*-0.07*
Crude Oil Adjustment (d)	**0.42**	**0.63**	**0.54**	**0.29**	*-0.01*	*0.22*	*0.23*	*0.16*	*0.22*	*0.22*	*0.23*	*0.16*	**0.47**	*0.15*	*0.21*
Total Crude Oil Input to Refineries	**13.81**	**15.65**	**15.60**	**15.51**	*15.25*	*16.29*	*16.85*	*15.88*	*15.12*	*16.75*	*17.08*	*15.90*	**15.15**	*16.07*	*16.22*
Other Supply															
Refinery Processing Gain	**0.84**	**0.97**	**0.97**	**1.04**	*1.08*	*1.04*	*1.07*	*1.08*	*1.03*	*1.01*	*1.02*	*1.01*	**0.96**	*1.07*	*1.02*
Natural Gas Plant Liquids Production	**4.86**	**5.46**	**5.52**	**5.70**	*5.69*	*5.84*	*5.94*	*6.02*	*6.06*	*6.17*	*6.17*	*6.19*	**5.39**	*5.87*	*6.15*
Renewables and Oxygenate Production (e)	**1.03**	**1.13**	**1.10**	**1.23**	*1.17*	*1.19*	*1.21*	*1.25*	*1.18*	*1.22*	*1.22*	*1.27*	**1.12**	*1.21*	*1.22*
Fuel Ethanol Production	**0.90**	**0.99**	**0.96**	**1.06**	*1.00*	*1.02*	*1.03*	*1.05*	*1.00*	*1.03*	*1.02*	*1.05*	**0.98**	*1.03*	*1.02*
Petroleum Products Adjustment (f)	**0.19**	**0.22**	**0.22**	**0.22**	*0.21*	*0.22*	*0.22*	*0.22*	*0.21*	*0.22*	*0.22*	*0.22*	**0.21**	*0.22*	*0.22*
Product Net Imports (c)	**-2.94**	**-3.13**	**-3.24**	**-3.86**	*-3.44*	*-3.33*	*-4.10*	*-3.77*	*-3.50*	*-3.84*	*-4.29*	*-3.78*	**-3.29**	*-3.66*	*-3.85*
Hydrocarbon Gas Liquids	**-2.02**	**-2.23**	**-2.16**	**-2.26**	*-2.25*	*-2.24*	*-2.29*	*-2.28*	*-2.43*	*-2.47*	*-2.54*	*-2.46*	**-2.17**	*-2.27*	*-2.47*
Unfinished Oils	**0.14**	**0.25**	**0.22**	**0.13**	*0.26*	*0.28*	*0.30*	*0.20*	*0.19*	*0.22*	*0.29*	*0.20*	**0.19**	*0.26*	*0.23*
Other HC/Oxygenates	**-0.08**	**-0.04**	**-0.03**	**-0.06**	*-0.06*	*-0.05*	*-0.07*	*-0.06*	*-0.06*	*-0.05*	*-0.05*	*-0.04*	**-0.05**	*-0.06*	*-0.05*
Motor Gasoline Blend Comp.	**0.55**	**0.79**	**0.66**	**0.38**	*0.33*	*0.71*	*0.39*	*0.21*	*0.39*	*0.60*	*0.38*	*0.41*	**0.60**	*0.41*	*0.44*
Finished Motor Gasoline	**-0.66**	**-0.66**	**-0.68**	**-0.81**	*-0.60*	*-0.55*	*-0.62*	*-0.52*	*-0.64*	*-0.57*	*-0.60*	*-0.69*	**-0.70**	*-0.58*	*-0.63*
Jet Fuel	**0.03**	**0.09**	**0.09**	**-0.01**	*0.01*	*0.01*	*-0.01*	*0.01*	*-0.01*	*0.03*	*0.05*	*0.09*	**0.05**	*0.00*	*0.04*
Distillate Fuel Oil	**-0.49**	**-0.90**	**-0.94**	**-0.86**	*-0.59*	*-1.00*	*-1.19*	*-0.93*	*-0.56*	*-1.06*	*-1.20*	*-0.92*	**-0.80**	*-0.93*	*-0.94*
Residual Fuel Oil	**0.08**	**0.05**	**0.08**	**0.14**	*0.08*	*0.08*	*0.03*	*0.10*	*0.01*	*0.03*	*-0.01*	*0.10*	**0.09**	*0.07*	*0.03*
Other Oils (g)	**-0.49**	**-0.49**	**-0.50**	**-0.52**	*-0.60*	*-0.55*	*-0.63*	*-0.51*	*-0.38*	*-0.57*	*-0.60*	*-0.47*	**-0.50**	*-0.57*	*-0.51*
Product Inventory Net Withdrawals	**0.65**	**-0.26**	**0.03**	**0.54**	*0.28*	*-0.69*	*-0.37*	*0.31*	*0.35*	*-0.53*	*-0.29*	*0.40*	**0.24**	*-0.12*	*-0.02*
Total Supply	**18.43**	**20.03**	**20.21**	**20.39**	*20.23*	*20.56*	*20.83*	*20.98*	*20.45*	*21.00*	*21.13*	*21.21*	**19.77**	*20.66*	*20.95*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.40**	**3.33**	**3.31**	**3.54**	*3.88*	*3.38*	*3.39*	*3.85*	*3.99*	*3.54*	*3.47*	*3.88*	**3.39**	*3.62*	*3.72*
Other HC/Oxygenates	**0.11**	**0.13**	**0.11**	**0.16**	*0.17*	*0.16*	*0.15*	*0.21*	*0.19*	*0.19*	*0.18*	*0.24*	**0.13**	*0.17*	*0.20*
Unfinished Oils	**0.05**	**0.03**	**-0.05**	**0.02**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*-0.03*	*-0.01*	*0.01*	**0.01**	*0.00*	*-0.01*
Motor Gasoline	**8.00**	**9.07**	**9.13**	**8.94**	*8.41*	*9.15*	*9.23*	*8.98*	*8.47*	*9.23*	*9.27*	*9.02*	**8.79**	*8.95*	*9.00*
Fuel Ethanol blended into Motor Gasoline	**0.82**	**0.93**	**0.94**	**0.95**	*0.85*	*0.94*	*0.94*	*0.94*	*0.87*	*0.95*	*0.95*	*0.95*	**0.91**	*0.92*	*0.93*
Jet Fuel	**1.13**	**1.34**	**1.52**	**1.48**	*1.45*	*1.55*	*1.64*	*1.62*	*1.51*	*1.66*	*1.72*	*1.68*	**1.37**	*1.57*	*1.64*
Distillate Fuel Oil	**3.97**	**3.93**	**3.87**	**4.05**	*4.23*	*4.02*	*3.97*	*4.09*	*4.23*	*4.09*	*4.04*	*4.12*	**3.96**	*4.08*	*4.12*
Residual Fuel Oil	**0.26**	**0.25**	**0.33**	**0.39**	*0.33*	*0.28*	*0.31*	*0.31*	*0.27*	*0.28*	*0.29*	*0.31*	**0.31**	*0.31*	*0.29*
Other Oils (g)	**1.53**	**1.95**	**1.98**	**1.81**	*1.78*	*2.01*	*2.13*	*1.92*	*1.80*	*2.05*	*2.17*	*1.94*	**1.82**	*1.96*	*1.99*
Total Consumption	**18.45**	**20.03**	**20.21**	**20.39**	*20.23*	*20.56*	*20.83*	*20.98*	*20.45*	*21.00*	*21.13*	*21.21*	**19.78**	*20.66*	*20.95*
Total Petroleum and Other Liquids Net Imports	**-0.07**	**-0.16**	**0.35**	**-0.62**	*0.19*	*0.89*	*0.25*	*-0.37*	*-0.79*	*0.16*	*-0.10*	*-0.98*	**-0.13**	*0.24*	*-0.43*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**501.9**	**448.0**	**420.4**	**417.2**	*444.3*	*452.8*	*432.2*	*436.6*	*468.2*	*476.2*	*470.1*	*463.7*	**417.2**	*436.6*	*463.7*
Hydrocarbon Gas Liquids	**168.6**	**195.8**	**225.6**	**185.8**	*138.7*	*191.6*	*239.0*	*199.8*	*160.5*	*208.3*	*245.6*	*201.9*	**185.8**	*199.8*	*201.9*
Unfinished Oils	**93.3**	**93.0**	**90.2**	**82.8**	*91.4*	*90.6*	*89.9*	*83.0*	*92.7*	*90.6*	*89.8*	*82.6*	**82.8**	*83.0*	*82.6*
Other HC/Oxygenates	**29.1**	**27.5**	**25.4**	**27.5**	*32.1*	*30.9*	*30.6*	*30.9*	*32.9*	*31.7*	*31.4*	*31.7*	**27.5**	*30.9*	*31.7*
Total Motor Gasoline	**237.6**	**237.2**	**227.0**	**233.9**	*243.1*	*246.8*	*234.0*	*249.1*	*248.2*	*247.5*	*238.8*	*250.6*	**233.9**	*249.1*	*250.6*
Finished Motor Gasoline	**20.3**	**18.6**	**18.5**	**17.3**	*18.3*	*21.7*	*23.5*	*26.9*	*23.5*	*24.4*	*25.5*	*27.9*	**17.3**	*26.9*	*27.9*
Motor Gasoline Blend Comp.	**217.4**	**218.6**	**208.5**	**216.6**	*224.9*	*225.2*	*210.5*	*222.3*	*224.8*	*223.0*	*213.3*	*222.7*	**216.6**	*222.3*	*222.7*
Jet Fuel	**39.0**	**44.7**	**42.0**	**34.9**	*37.0*	*38.4*	*41.3*	*38.4*	*38.0*	*39.0*	*41.6*	*38.5*	**34.9**	*38.4*	*38.5*
Distillate Fuel Oil	**145.5**	**140.1**	**131.7**	**127.2**	*114.8*	*121.0*	*128.9*	*130.6*	*119.3*	*124.4*	*131.3*	*133.2*	**127.2**	*130.6*	*133.2*
Residual Fuel Oil	**30.9**	**31.1**	**28.0**	**26.0**	*27.2*	*29.8*	*29.0*	*30.6*	*30.3*	*31.1*	*29.7*	*31.1*	**26.0**	*30.6*	*31.1*
Other Oils (g)	**55.8**	**54.1**	**50.5**	**52.3**	*61.3*	*59.1*	*49.9*	*51.3*	*60.5*	*58.4*	*49.2*	*50.5*	**52.3**	*51.3*	*50.5*
Total Commercial Inventory	**1301.7**	**1271.5**	**1240.7**	**1187.7**	*1190.0*	*1261.1*	*1274.6*	*1250.4*	*1250.6*	*1307.1*	*1327.4*	*1284.0*	**1187.7**	*1250.4*	*1284.0*
Crude Oil in SPR	**637.8**	**621.3**	**617.8**	**593.6**	*569.3*	*560.6*	*560.6*	*552.8*	*545.0*	*537.2*	*540.6*	*530.1*	**593.6**	*552.8*	*530.1*

(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 February 3, 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 - February 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**	**105.04**	*103.67*	*103.78*	*104.57*	*105.50*	*105.63*	*106.12*	*106.95*	*107.49*	**101.45**	*104.39*	*106.55*
Alaska	**1.02**	**0.95**	**0.90**	**0.98**	*0.91*	*0.75*	*0.71*	*0.85*	*0.90*	*0.75*	*0.71*	*0.86*	**0.96**	*0.80*	*0.80*
Federal GOM (a)	**2.26**	**2.25**	**1.82**	**2.19**	*2.33*	*2.26*	*2.14*	*2.10*	*2.14*	*2.08*	*1.96*	*1.92*	**2.13**	*2.21*	*2.02*
Lower 48 States (excl GOM)	**94.37**	**97.92**	**99.17**	**101.87**	*100.44*	*100.77*	*101.72*	*102.55*	*102.60*	*103.28*	*104.28*	*104.71*	**98.36**	*101.38*	*103.73*
Total Dry Gas Production	**90.59**	**93.15**	**93.86**	**96.69**	*95.43*	*95.54*	*96.26*	*97.12*	*97.11*	*97.57*	*98.34*	*98.84*	**93.59**	*96.09*	*97.97*
LNG Gross Imports	**0.15**	**0.02**	**0.03**	**0.12**	*0.32*	*0.18*	*0.18*	*0.20*	*0.32*	*0.18*	*0.18*	*0.20*	**0.08**	*0.22*	*0.22*
LNG Gross Exports	**9.27**	**9.81**	**9.60**	**10.40**	*11.03*	*10.84*	*11.33*	*12.18*	*12.72*	*11.86*	*11.73*	*12.23*	**9.77**	*11.35*	*12.13*
Pipeline Gross Imports	**8.68**	**6.81**	**7.24**	**7.81**	*7.97*	*6.44*	*6.39*	*6.72*	*7.76*	*6.45*	*6.32*	*6.51*	**7.63**	*6.88*	*6.75*
Pipeline Gross Exports	**8.31**	**8.67**	**8.50**	**8.33**	*8.70*	*8.34*	*9.21*	*9.19*	*9.11*	*9.02*	*9.33*	*9.23*	**8.45**	*8.86*	*9.17*
Supplemental Gaseous Fuels	**0.18**	**0.15**	**0.15**	**0.18**	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	*0.17*	**0.16**	*0.17*	*0.17*
Net Inventory Withdrawals	**17.18**	**-9.12**	**-7.87**	**0.90**	*18.45*	*-10.89*	*-7.94*	*4.12*	*15.19*	*-11.16*	*-8.93*	*2.75*	**0.21**	*0.87*	*-0.60*
Total Supply	**99.19**	**72.52**	**75.31**	**86.97**	*102.61*	*72.26*	*74.51*	*86.96*	*98.71*	*72.34*	*75.02*	*87.00*	**83.44**	*84.01*	*83.21*
Balancing Item (b)	**0.21**	**-0.60**	**-0.23**	**-1.43**	*-0.13*	*-0.70*	*0.99*	*0.87*	*0.85*	*0.17*	*0.95*	*0.59*	**-0.52**	*0.26*	*0.64*
Total Primary Supply	**99.40**	**71.92**	**75.08**	**85.54**	*102.47*	*71.56*	*75.50*	*87.83*	*99.56*	*72.51*	*75.97*	*87.59*	**82.92**	*84.27*	*83.85*
Consumption (billion cubic feet per day)															
Residential	**25.67**	**7.49**	**3.62**	**14.48**	*25.86*	*7.91*	*3.71*	*16.65*	*25.08*	*7.91*	*3.76*	*16.51*	**12.76**	*13.48*	*13.27*
Commercial	**14.87**	**6.23**	**4.69**	**9.74**	*15.57*	*6.51*	*4.79*	*10.49*	*15.00*	*6.49*	*4.74*	*10.40*	**8.86**	*9.31*	*9.13*
Industrial	**23.81**	**21.46**	**21.13**	**23.58**	*24.75*	*22.17*	*22.25*	*24.99*	*24.85*	*22.37*	*22.37*	*25.24*	**22.49**	*23.54*	*23.70*
Electric Power (c)	**26.75**	**29.17**	**37.93**	**29.52**	*27.55*	*27.29*	*36.89*	*27.37*	*25.87*	*27.90*	*37.11*	*27.02*	**30.87**	*29.79*	*29.50*
Lease and Plant Fuel	**4.87**	**5.04**	**5.08**	**5.24**	*5.17*	*5.17*	*5.21*	*5.26*	*5.27*	*5.29*	*5.33*	*5.36*	**5.06**	*5.20*	*5.31*
Pipeline and Distribution Use	**3.29**	**2.38**	**2.48**	**2.83**	*3.41*	*2.35*	*2.48*	*2.91*	*3.32*	*2.38*	*2.50*	*2.90*	**2.74**	*2.79*	*2.77*
Vehicle Use	**0.14**	**0.15**	**0.15**	**0.15**	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	*0.16*	**0.15**	*0.16*	*0.16*
Total Consumption	**99.40**	**71.92**	**75.08**	**85.54**	*102.47*	*71.56*	*75.50*	*87.83*	*99.56*	*72.51*	*75.97*	*87.59*	**82.92**	*84.27*	*83.85*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,801**	**2,583**	**3,305**	**3,220**	*1,560*	*2,551*	*3,281*	*2,902*	*1,535*	*2,550*	*3,372*	*3,120*	**3,220**	*2,902*	*3,120*
East Region (d)	**313**	**515**	**804**	**767**	*244*	*515*	*780*	*644*	*258*	*564*	*852*	*752*	**767**	*644*	*752*
Midwest Region (d)	**395**	**630**	**966**	**893**	*309*	*564*	*909*	*799*	*330*	*602*	*942*	*836*	**893**	*799*	*836*
South Central Region (d)	**760**	**991**	**1,052**	**1,143**	*699*	*998*	*1,066*	*991*	*646*	*936*	*1,033*	*1,041*	**1,143**	*991*	*1,041*
Mountain Region (d)	**113**	**175**	**205**	**172**	*86*	*135*	*186*	*172*	*104*	*146*	*209*	*188*	**172**	*172*	*188*
Pacific Region (d)	**197**	**246**	**248**	**219**	*196*	*315*	*315*	*270*	*173*	*278*	*312*	*278*	**219**	*270*	*278*
Alaska	**23**	**27**	**30**	**26**	*25*	*25*	*25*	*25*	*25*	*25*	*25*	*25*	**26**	*25*	*25*

(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 February 3, 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.

SAF Group created transcript of excerpt from TotalEnergies Q4 call hosted by CEO Patrick Pouyanne on Feb 10, 2022

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

At 6:44am MT, mgmt was asked about the on the ground security situation in Mozambique and the prospects about bringing back staff. Pouyanne replies "*Mozambique, I will give time to Jean Pierre. Difficult question. Mozambique. I visited Mozambique ten days ago. I met with President Nyusi and some of my people went into Cabo del Gado, not me at this stage. Let me be clear, it's a war, you have some terrorists. So it's no more a matter TotalEnergies to be involved in solving that situation. And we will come back, we could envisage to come back and to restart the project on the nuance there will be peace. A peaceful situation, which means not only having being able to having secure security to I would say take back control of the security. But also to have populations, civic populations back in the villages and with normal life. That will be the signal. We will not build a plant in a country where we will be surrounded by soldiers. It does not work like that. Having said that, there have been some clear improvement on the ground since the involvement and the Mozambique arrangement with the SADC, I would say troops, consortium of different countries including Rwanda. They managed to get back the security in some key areas around Palma where our project is, around xxx xxx Mozambique I have become an expert. But they do not control today, the full Cabo del Gado. And for me, as long as it's not controlled security wise, its important because the population will come back only when the security will under control. And all that is linked for us But, I have no idea when we can start the project back. But my view is that the conditions under which we could restart the project might be fulfilled, maybe it will take a year. I don't know. We'll see. We observe. And what is good, we have the same vision with the authorities of Mozambique of what needs to achieved. There is no pressure from us to exit out of force majeure. And we have established, I would say, we have frozen every xx contractors. We know that when we say yes we can come back, it will take six months really to start up again. But again, my priority is, it's a matter of sustainability of human rights. We will not announce a project as long as I see photos from refugee camps around the site. But, again, it's not negative. It's still for me a project and we are monitoring the situation because we think that the authorities of Mozambique are taking the right decisions in terms of security. So let's observe"*

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

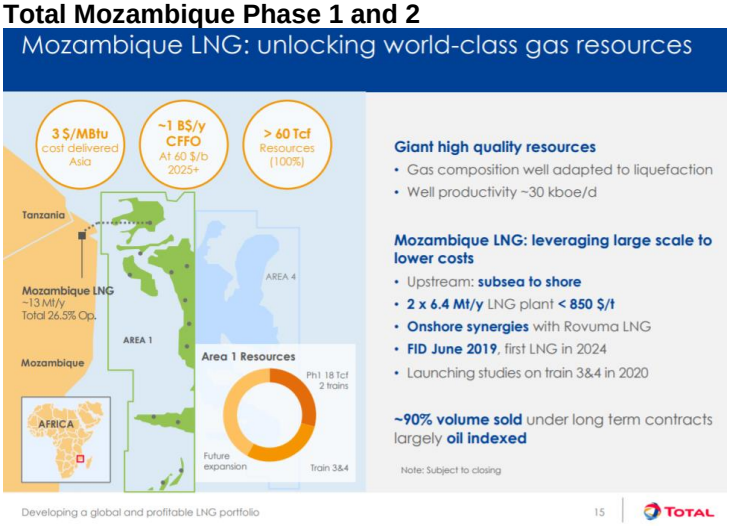
Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?

Posted Wednesday April 28, 2021. 9:00 MT

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

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

Total Mozambique Phase 1 and 2



Source: Total Investor Day September 24, 2019

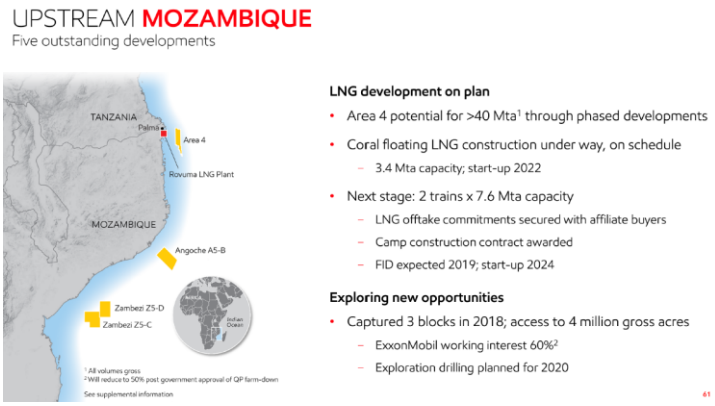
Total's Mozambique force majeure is no surprise, especially the need to the restoration of security and stability "in a sustained manner". Yesterday, Total announced [LINK] "*Considering the evolution of the security".* No one should be surprised by the force majeure or the sustained manner caveat. SAF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

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

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

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

Exxon Mozambique LNG



Source: Exxon Investor Day March 6, 2019

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

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

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

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

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

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

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

Source: IEA

On Track More Efforts Needed Not on Track

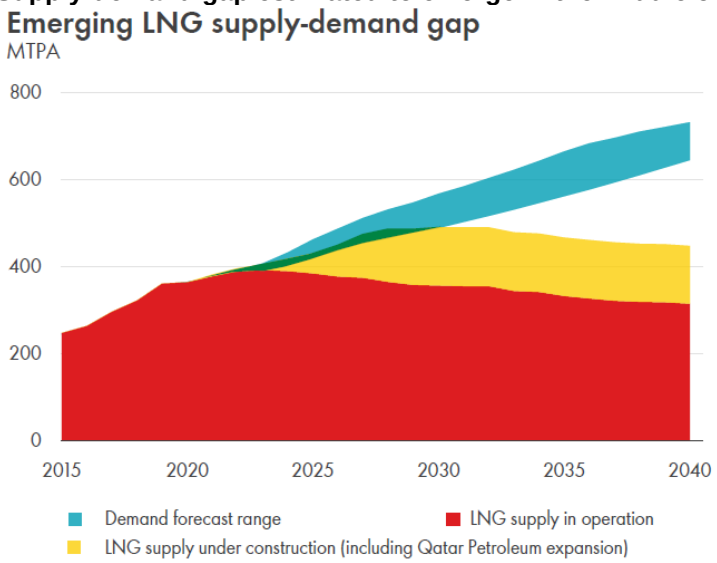
Source: IEA Tracking Clean Energy Progress, June 2020

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

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

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

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



Source: Shell LNG Outlook 2021, Feb 25, 2021

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

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

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

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

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

https://www.pib.gov.in/PressReleseDetail.aspx?PRID=1797259

Ministry of Petroleum & Natural Gas

Government has set a target to raise the share of natural gas in energy mix to 15% by 2030

Posted On: 10 FEB 2022 5:14PM by PIB Delhi

The Minister of State for Petroleum and Natural Gas, Shri Rameswar Teli in a written reply to a question in the Lok Sabha today informed that the Government has set a target to raise the share of natural gas in energy mix to 15% by 2030. At present, share of natural gas in primary energy mix has increased from 6.3% to 6.7% from 2020 to 2021.

Petroleum & Natural Gas Regulatory Board (PNGRB) grants authorization to the entities for the development of City Gas Distribution (CGD) network in Geographical Areas (GAs) as per PNGRB Act, 2006 and Regulation framed there under. Establishment of CNG stations and providing PNG connections are part of development of CGD network and the same is done by the authorized CGD entities in their authorized GAs as per the Minimum Work Plan (MWP). PNGRB also authorizes entities for laying of pipeline infrastructure for development of CGD network.

Investment for the development of CGD network and natural gas pipeline infrastructure is done by the authorized entities, both private and public as per the techno commercial requirements. The authorized entities have done an investment for approximately Rs.14,556 crore this year. Further, PNGRB has received bids for 61 GAs in the 11th round which entail investment of more than Rs.80,000 crore.

As part of initiative to make natural gas available to more and more consumers, government has approved partial capital grant of Rs. 5176 crore for the Jagdishpur-Haldia-Bokaro-Dhamra Pipeline (JHBDPL) project and Rs.5559 crore for North East Gas Grid. Till now Rs.4549.204 crore has been utilized in JHBDPL project and Rs.1030 crore has been utilized in North East Gas Grid.

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YB/RKM

THE ECONOMIC TIMES | Industry
English Edition | 05 February, 2022, 04:34 AM IST | E-Paper

India to double down on oil, gas exploration: Hardeep Singh Puri

Synopsis
India currently relies on imports to meet 85 per cent of its oil needs and 50 per cent of the natural gas requirement. This is because domestic production is inadequate.

Seven rounds of an auction of acreage under the new Open Acreage Licensing Policy (OALP) in the last five years have doubled the area under exploration for oil and gas to 207,692 (0.2 million) sq km.

India will more than double the area that is under exploration and production of oil and gas to 0.5 million square kilometer by 2025 and to 1 million sq km by 2030 with a view to raising domestic output and cut reliance on imported fuel, Petroleum Minister Hardeep Singh Puri said on Friday. The world's third-largest energy consumer will continue to rely on hydrocarbons to meet its growing energy needs in the foreseeable future, he said at the World Energy Policy Summit 2022.

India currently relies on imports to meet 85 per cent of its oil needs and 50 per cent of the natural gas requirement. This is because domestic production is inadequate.

"With an objective of increased domestic production of oil and gas, we have declared an ambitious target to increase the area under exploration and production to 0.5 million sq km by 2025 and achieve 1 mn sq km by 2030," he said.

Seven rounds of an auction of acreage under the new Open Acreage Licensing Policy (OALP) in the last five years have doubled the area under exploration for oil and gas to 207,692 (0.2 million) sq km.

Puri said the Indian economy expanding to USD 5 trillion by 2025 and to USD 10 trillion by 2030 from the current USD 3 trillion will lead to burgeoning energy demand.

"By 2050, as per projections by BP Energy outlook, India's shares in global energy demand is expected to double from the current 6 per cent to 12 per cent, accounting for over a quarter of net global primary energy demand growth," he said.

"India's (economic) growth has the potential to catalyse global economic resurgence. Any achievement by India will have

a multiplier impact on the achievement of the sustainable development goals."

Referring to India's target to reach net-zero carbon emissions by 2027, he said the government has already taken several measures to overhaul the hydrocarbon policy framework to ensure energy security for the country while pursuing the green path to progress.

"However, we acknowledge that oil and gas will continue to meet the baseload of our energy demand for the foreseeable future," he said.

Over 80 per cent of India's energy needs are met by three fuels -- coal, oil and solid biomass. Coal accounts for 44 per ce of all energy consumption while the oil makes up for a quarter. The share of natural gas is 6 per cent.

"We are rapidly deploying natural gas in our energy mix by increasing its share from the current 6 per cent to 15 per cent by 2030," Puri said.

Also, ethanol extracted from sugarcane and surplus foodgrains is being doped in petrol to cut reliance on imported oil.

"Ethanol blending through a series of progressive reforms has reached a national average of over 8 per cent blending currently and is all set to increase to 20 per cent by 2025," he said adding bio-waste is also being turned into gas for use as fuel.

This complements the thrust towards clean mobility using electricity-powered vehicles (EVs) and the development of battery technology.

"Our focus is also on the faster deployment of green hydrogen and developing India as a hub of green hydrogen. Our oil and gas companies are developing projects for use of hydrogen as fuel and infusion of hydrogen in gas pipelines as well," he said.

The reforms across the value chain of the oil and gas sector in India, he said, are not a matter of short-term expediency but an outcome of a well-considered long-term strategy to tap immense resources. "I am certain India will emerge as a global leader for a sustainable transition to cleaner and greener energy."

India’s LNG Imports to Jump Near 5 Times by 2030: Petronet
2021-10-22 09:02:33.799 GMT

By Debjit Chakraborty and Rajesh Kumar Singh
(Bloomberg) -- India’s import of natural gas is expected to hit 120 million tons/year by 2030 as the nation targets an energy mix goal, Akshay Kumar Singh, CEO of Petronet LNG, said at the India Energy Forum by CERAWeek.
* NOTE: India aims to boost use to natural gas to 15% of primary energy mix from about 6% now
* India’s current annual LNG import is about 26 million tons
* The nation’s gas production by 2030 is expected to reach 40 million-50 million tons
* Current LNG import capacity is 42 million tons/year, while about 19 million tons/year capacity is under construction
* Another 9 million-10 million tons of capacity addition are at design stage
* Petronet is expanding its biggest terminal at Dahej to 22.5 million tons a year from 17.5 million currently
* India’s biggest LNG importer is also looking at building a new terminal on the east coast
* The current volatility in global gas prices is causing demand destruction
* Price volatility pushing consumers to long term LNG contracts
* Consumers are looking at a mix of oil, gas indexation for long LNG deals, which can work good for buyers

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Sabka Saath, Sabka Vikas, Sabka Vishwas and now Sabka Prayas are vital for the achievement of our goals: PM Modi on 75th Independence Day

August 15, 2021

Share

TELL A FRIEND

My dear countrymen!

Best wishes to all of you and those who love India and democracy from all over the world on the occasion of the Amrit Mahotsav of freedom, the 75th Independence Day.

Today, on the pious festival of the Amrit Mahotsav of freedom, the country is bowing to all its freedom fighters and brave heroes who continue to sacrifice themselves day and night in the defense of the nation. The country is remembering every personality, including the revered Bapu, who made freedom a mass movement, Netaji Subhash Chandra Bose, who sacrificed everything for the freedom, or great revolutionaries like Bhagat Singh, Chandrasekhar Azad, Bismil and Ashfaqulla Khan; Rani of Jhansi Lakshmibai, Queen Chennamma of Kittur or Rani Gaidinliu or the valour of MatanginiHazra in Assam; the country's first Prime Minister Pandit Nehru ji, Sardar Vallabhbhai Patel, who integrated the country into a united nation, and Baba Saheb Ambedkar, who determined and paved the way for the future direction of India. The country is indebted to all these great personalities.

India is a land endowed with gems. I salute countless people from every corner of India whose names don't even figure in history, but who have built this nation and have also taken it forward in every period.

India has fought for the motherland, culture and freedom for centuries. This country never gave up the pain of slavery and the longing for freedom for centuries. In the midst of victories and defeats, the aspiration of freedom engraved in the mind was never diminished. Today is the time to bow down to the leaders of all these struggles, the warriors of centuries of struggle and they also deserve our reverence.

Our doctors, nurses, paramedical staff, sanitation staff, scientists engaged in developing vaccines, millions of countrymen engaged with the spirit of service during this Corona global pandemic also deserve praise from all of us.

Today there are floods in some areas of the country, landslides have also occurred. Some sad news also keeps coming. The hardships of the people have increased in many areas. At such a time, both the Central and State Governments are with them in complete readiness. Today, the young athletes and our players who have brought laurels to India are also present in this event.

Some are present and sitting here. Today, I appeal to all the countrymen, those who are present here and all those who are present in this ceremony from every corner of India, that in the honour of our players, for a few moments let's salute them with resounding clapping applause and show respect for their huge accomplishments.

Let us show our respect to the sports of India, youth of India and honour the young Indians who bring laurels to the nation. Crores of countrymen are showing respect to the youth of India, especially the athletes who brought honour to India with a thunderous applause. I can be proud that they have not only won our hearts today, but also inspired the youth of India and future generations with their huge achievements.

My dear countrymen,

While we celebrate our freedom today, we cannot forget the pain of partition that still pierces through the heart of all Indians. This has been one of the biggest tragedies of the last century. After attaining freedom, these people were forgotten too soon. Just yesterday India has taken an emotional decision in their memory. We will henceforth commemorate August 14 as “Partition Horrors Remembrance Day” in the memory of all the victims of partition. Those who were subjected to inhuman circumstances, suffered torturous treatment, they could not even receive a dignified cremation. They must all remain alive and never get erased from our memories. The decision of celebrating “Partition Horrors Remembrance Day” on the 75th Independence Day is a befitting tribute from every Indian to them.

My dear countrymen,

For the country moving on the path of progress and humanity in the entire world, the Corona period came as a major challenge. Indians fought this fight with great grit and patience. We had many challenges. Countrymen performed extraordinarily in every field. It is due to the power of our entrepreneurs and scientists that the country is not dependent on anyone or any country for vaccines. Imagine for a ment, if we did not have the vaccine. How long did it take to get polio vaccine?

It was extremely difficult to get vaccines during such a major crisis, with pandemic plaguing the entire world. India might or might not have received it and even if it had received the vaccine there was no certainty of getting that in time. But today we can proudly say that the world's largest vaccination programme is being run in our country. More than 54 crore people have received the vaccine dose. Online systems like Cowin and digital certificates are attracting the world today.

The way India has kept the stoves burning in the poor households by providing free food grains to 80 crore countrymen continuously for months during the pandemic is not only astonishing to the world but also a matter of discussion. It is true that fewer people have been infected in India as compared to other countries; it is also true that in comparison to the population of other countries of the world, we managed to save more citizens in India but it is not something to be proud of! We cannot rest on these laurels. To say that there was no challenge, will become a restrictive thought in the path of our own development.

Our systems are insufficient compared to that of the rich countries of the world, we do not have what the rich countries have. Moreover, we also have a greater population compared to the other countries of the world. And our lifestyle is also different. Despite all our efforts, we could not save many people. So many children have been orphaned. This unbearable pain is going to remain forever.

My dear countrymen,

There comes a time in the development journey of every country when the country redefines itself afresh and pushes forward with new resolutions. Today that time has arrived in the development journey of India. We should not limit the occasion of 75 years of Indian independence to just one ceremony. We must lay the groundwork for new resolutions and move forward with new resolutions. Starting from here, the entire journey of the next 25 years, when we celebrate the centenary of Indian independence, marks the Amrit period of creation of a new India. The fulfillment of our resolutions in this Amrit period will take us to the hundredth anniversary of Indian independence with pride.

The goal of 'Amrit Kaal' is to ascend to new heights of prosperity for India and the citizens of India. The goal of 'Amrit Kaal' is to create an India where the level of facilities is not dividing the village and the city. The goal of 'Amrit Kaal' is to build an India where the government does not interfere unnecessarily in the lives of citizens. The goal of 'Amrit Kaal' is to build an India where there is world’s every modern infrastructure.

We should not be lesser than anyone. This is the resolve of the crores of countrymen. But the resolve remains incomplete until it is not accompanied by the extreme hard work and courage. Therefore, we have to realize all our resolutions with hard work and courage, and these dreams and resolutions are also for effective contribution to a safe and prosperous world beyond our borders.

Amrit Kaal is of 25 years. But we don't have to wait for long to achieve our goals. We have to start now. We don't have a moment to lose. This is the right time. Our country also has to change and we as citizens have to change ourselves too. We also have to adapt ourselves to the changing era. We have started with the spirit of 'SabkaSaath, Sabka Vikas, Sabka Vishwas'. Today I am requesting from the ramparts of the Red Fort that 'SabkaSaath, Sabka Vikas, Sabka Vishwas' and now 'SabkaPrayas' are very important for the achievement of our goals. Crores of people are getting the benefits of many schemes started in the last seven years. Every poor of the country knows the importance of Ujjwala to Ayushman Bharat. Today the speed of government schemes has increased and they are achieving the desired goals.

We have progressed much faster than before. But it does not end here. We have to achieve saturation. All the villages should have roads, all the households should have bank accounts, all the beneficiaries should have Ayushman Bharat cards and all the eligible persons should get the benefit of Ujjwala Yojana and should have gas connections. We have to connect every entitled person with the government's insurance, pension and housing schemes. We have to move ahead with a mindset of cent percent achievement. Till now, no thought was given for our street vendors, who sell their goods on tracks, footpaths and carts. All these colleagues are now being linked to the banking system through the SVANidhi scheme.

Just as we have made electricity accessible to 100% households, and have made authentic efforts to construct toilets in 100% households, similarly, we now have to move ahead with the goal of achieving saturation of schemes, and, for this, we do not have to keep a distant deadline. We have to make our resolutions come true within a few years.

Today, our country is working with speed on the Har Ghar Jal Mission. I am happy that in just two years of the Jal Jeevan Mission, more than four and a half crore families have started getting water from taps. They have started getting water from pipes. Receiving the blessings from crores of mothers and sisters, is our true capital. The biggest advantage of this 100 percent accomplishment rate is that no one remains deprived of the benefits of the government scheme. When the government operates with a target to reach the person in the last line, only then there is no discrimination and there is no scope for corruption.

My dear countrymen,

Providing nutrition to every poor person of the country is also a priority of this government. Malnutrition and lack of essential nutrients in poor women and poor children poses major obstacles in their development. In view of this, it has been decided that the government will fortify the rice given to the poor under its various schemes. Will give rice fortified with nutrition to the poor. Be it the rice available at the ration shop, the rice provided to the children in the mid-day meal, or the rice available through every scheme, it shall be fortified by the year 2024.

My dear countrymen,

Today, the campaign to provide better health facilities to every poor in the country is also going on at a fast pace. For this, important reforms have also been made in medical education. Equal attention has been paid to preventive healthcare. Simultaneously, there has been a substantial increase in the number of medical seats in the country. Under the Ayushman Bharat scheme, quality health services are being provided to every village in the country. Affordable medicines are being made available to the poor and middle class through Jan Aushadhi Yojana. So far, more than 75 thousand Health and Wellness centers have been set up. At the block level too, modern health infrastructure is being exclusively set up on a network of good

hospitals and modern labs. Very soon thousands of hospitals in the country will also have their own oxygen plants.

My dear countrymen,

To take India to new heights in the 21st century, the optimal utilisation of India's potential is the need of the hour.

This is extremely important. For this, we need to provide hand holding to the backward categories and sectors. Alongwith the concern of fulfilling the basic needs, reservation is being ensured for the Dalits, Backward classes, Adivasis and the poor people from general category. More recently, in the field of medical education, reservation has also been ensured for the OBC category in the All India quota. By formulating a law in Parliament, the right to make their own list of OBC has been given to the states.

My dear countrymen,

Just as we are making sure that no person or no class should be left behind in the development journey of society, similarly no part of the country, no corner of the country should be left behind. Development should be all-round, development should be all-pervasive, development should be all-inclusive. We are now accelerating the efforts that have been made in the last seven years to bring forward such backward areas of the country. Be it the eastern India, the North-east, Jammu-Kashmir, Ladakh including the entire Himalayan region, be it our coastal belt or the tribal region, these regions are going to turn into a major foundation for India's development in future, India's development journey.

Today a new history of connectivity is being written in the North-East. This is a connectivity of both the hearts and the infrastructure. Very soon the work of connecting all the state capitals of the North-East with rail service is going to be completed. Under the Act-East Policy, today North-East, Bangladesh, Myanmar and South-East Asia are also being connected. Due to the efforts made in the past years, now the enthusiasm for the creation of Shreshtha Bharat and long lasting peace in the North-East has increased manifold.

There is a huge potential in the fields of tourism, adventure sports, organic farming, herbal medicine, and oil pump in the North East. We have to fully harness this potential and make it a part of the development journey of the country. And we have to complete this work within a few decades of the 'Amrit kaal'. Giving a fair opportunity to the capabilities of all is the true spirit of democracy. Be it Jammu or Kashmir, the balance of development is now visible on the ground.

The Delimitation Commission has been constituted in Jammu and Kashmir and preparations are also going on for the assembly elections. Ladakh has also progressed towards its limitless possibilities of development. On one hand Ladakh is witnessing the creation of modern infrastructure, while on the other hand Sindhu Central University is also making Ladakh a center of higher education.

In this decade of the 21st century, India will further accelerate its efforts towards the Blue Economy. Along with aquaculture, we have to take full advantage of the new possibilities that are emerging in the cultivation of seaweed. The Deep Ocean Mission is the result of our ambition to explore the unlimited possibilities of the ocean. The mineral wealth which is hidden in the sea, the thermal energy which is in the sea water, can give new heights to the development of the country.

We have also awakened the aspirations of the districts of the country believed to have been left behind. Priority is being given to schemes related to education, health, nutrition, roads and employment in more than 110 aspirational districts in the country. Many of these districts are in our tribal areas. We have created a spirit of healthy competition for development among these districts. There is a strong competition going on in that direction so that these aspirational districts are at par with other districts of India.

My dear countrymen,

Capitalism and socialism are discussed a lot in the world of economics, but India also emphasizes cooperativism. Cooperativism is also compatible with our traditions and values. Cooperativism, in which the collective power of the masses becomes the driving force of the economy, is important for the country's grassroots level economy. Co-operatives are not just a system with a network of laws and rules, but co-operative is a spirit, culture, and a mindset of collective growth. We have taken steps to empower them by forming a separate ministry. We have taken this step to empower the cooperative sector in the states.

My dear countrymen,

We will have to put all our efforts to build a new economy in the villages in this decade. Today we can see our villages changing rapidly. In the last few years, our government has provided roads and electricity to the villages. Now these villages have been strengthened with optical fibernetwork data and the Internet. Digital entrepreneurs are emerging in the villages also. The more than eight crore sisters in the villages, who are associated with Self-Help Groups, design top-end products. Now the government will also prepare an e-commerce platform for their products so that get a big market in our country and abroad. Today, when the country is moving forward with the mantra of Vocal for Local, this digital platform will connect the products of women self-help groups with people across the length and breadth of the country as well as internationally. Their horizon shall thus get enhanced.

During Corona, the country has witnessed the power of technology, as well as the commitment and capabilities of our scientists. The scientists of our country are working very diligently and strategically across the expanse of the country. Now the time has come for us to integrate the capabilities of scientists and their suggestions in our agriculture sector as well. Now we cannot wait any longer. We have to leverage this strength. This will go a long way in increasing the production of fruits, vegetables and grains along with giving food security to the country. Thus we shall catapult ourselves strongly into the world orbit.

Amongst these concerted efforts, we need to take cognizance of a major challenge posed in our agriculture sector. Challenge of shrinking of land of villagers which is due to immense rise in population, and smaller land holdings due to the divisions happening in the family. Farming land has shrunk alarmingly. More than 80 percent of the farmers of the country are those who have less than two hectares of land. If we see, 80 out of 100 farmers have less than two hectares of land i.e. the farmers of our country are practically in the small farmer category. Unfortunately, this segment remained eliminated from the benefits in our yesteryear's policies. They did not get their due importance. Now, keeping in mind these small farmers in the country, agricultural reforms are being undertaken, and critical decisions are being taken to benefit them.

Whether the improvement in the crop insurance scheme or important decision of increasing the MSP by one and a half times; a system to provide loans from banks at cheaper rates through Kisan Credit Card; taking the schemes related to solar power to the farm, formulate a Farmer Producer Organization. All these efforts will increase the power of the small farmer. In the coming times, a campaign will also be launched to create a warehouse facility up to the block level.

Keeping in mind the small expenses of every small farmer, PM KisanSamman Nidhi Yojana is being run. So far, more than 1.5 lakh crores have been deposited directly into the bank accounts of more than ten crore farmer families. The small farmer is now our resolve and mantra for us. The small farmer becomes the country's pride.... the small farmer becomes the nation's pride. This is our dream. In the coming years, we will have to increase the collective power of the small farmers of the country. New facilities have to be provided.

Today, Kisan Rail is plying on more than 70 rail routes of the country. Kisan Rail can help small farmers with this modern facility to reach far flung areas on a low cost of produce and transportation. Several

products like Kamalam, Shahi litchi, BhutJolokiachillis, black rice or turmeric are being exported to different countries of the world. Today, the country feels delighted when the aroma of these products produced in the soil of India reaches different countries of the world. Today the world is developing a taste for the vegetables and food grains grown in the fields of India.

My dear countrymen,

Swamitva Yojana is an example of one of the initiatives taken to boost the capabilities of the villages today. We all know what happens to the price of land in villages. They do not get any loan from the banks on the basis of land, despite being the owners of the land because no work had been done in terms of documents of rural land for several years. People do not have this system. The Swamitva scheme attempted to change this situation. Today every village, every house, every land is being mapped through drones. The data and property papers of village lands are being uploaded online. With this, not only the disputes related to land in the villages are being ended, but a system has also been created for the people of the village to get loans easily from the banks. The lands of village poor should be the foundation for development rather than disputes. And the country is moving in the same direction today.

My dear countrymen,

When Swami Vivekananda used to talk about the future of India, when he used to see the magnificence of Mother Bharati in front of his eyes, he used to say – Try to look into the past as far as possible. Drink the water of the ever new spring flowing back there, and after that, look ahead. Go ahead and make India brighter, greater & better than ever. In this 75th year of independence, it is our duty to move forward believing in the immense potential of the country. We have to work together for new generation infrastructure; we have to work together for world class manufacturing; we have to work together for cutting edge innovations; we have to work together for new age technology.

My dear countrymen,

The foundation of progress in the modern world lies on modern infrastructure. It also fulfills the needs and aspirations of the middle class. Weak infrastructure derails the pace of development and the urban middle class also suffers.

We have to work together for next generation infrastructure, for world class manufacturing, for cutting edge innovation and for New Age technology.

My dear countrymen,

Realizing this need, the country has demonstrated extraordinary speed and scale in every field from the seas, land to the skies. Rapid progress is underway whether it is development of new waterways or connecting new places with seaplanes. Indian Railways is also rapidly adapting to its modern avatar. The country has resolved to celebrate the Amrit Mahotsav of independence. You would know that we have decided to celebrate this Amrit Mahotsav of independence for 75 weeks. It started from 12th March and will continue till 15th August, 2023. We have to move forward with new enthusiasm and, therefore, the country has made a very important decision.

During these 75 weeks of the Amrit Mahotsav of Independence, 75 Vande Bharat trains will connect every corner of the country. The pace at which new airports are being built in the country and the UDAN scheme connecting remote areas is unprecedented. We can see how better air connectivity gives new flights to people's dreams.

My dear countrymen,

Along with modern infrastructure, there is a great need for adopting a holistic and integrated approach in infrastructure construction. In the near future, we are going to launch the National Master Plan of Prime Minister 'Gati Shakti' which will be a huge scheme and fulfill the dreams of crores of countrymen. This scheme of more than 100 lakh crores rupees will result in new employment opportunities for lakhs of youth.

Gati Shakti will be a National Infrastructure Master Plan for our country which will lay the foundation of holistic Infrastructure and will lead to an integrated and holistic pathway to our economy. Right now, there is no coordination between our means of transport. Gati Shakti will break the silos, and will remove all these obstacles. This will reduce the travel time for the common man and the productivity of our industry will also increase. Gati Shakti will also go a long way in making our local manufacturers globally competitive and this will also develop new possibilities for the creation of future economic zones. In this decade, the power of speed will form the basis of India's transformation.

My dear countrymen,

India will have to increase both its manufacturing and exports while moving ahead on the path of development.

My dear countrymen,

Treading ahead on the path of development, India will have to augment both its manufacturing and exports. You have witnessed, just a few days ago, India launched its first indigenous Aircraft Carrier INS Vikrant for trial in the sea. Today India is making its own indigenous fighter aircraft, its own submarine. Gaganyaan is also slated to hoist India's flag in space. This itself is evidential of our immense capabilities in indigenous manufacturing.

The country has also announced Production Linked Incentive to consolidate our Make in India campaign in the wake of the new economic conditions that have emerged due to Corona. The electronic manufacturing sector stands as an example of the change that is enforced through this scheme. Seven years ago we used to import mobile phones worth about eight billion dollars. However, now the import has reduced considerably, and today we are also exporting mobile phones worth three billion dollars.

Today, when our manufacturing sector is gaining momentum, our focus should be that whatever we make in India should be of highest quality standards so that we sustain in the global competition. Rather, if possible we should aim at going a step ahead and take proactive steps to prepare ourselves for the global market. We have to target that. I want to say emphatically to all the manufacturers of the country, that you should never forget that the product you sell overseas is not just a product made by your company, it is the identity of our nation, India's prestige and the faith of all the citizens of our country.

My dear countrymen

That is why I tell all our manufacturers that each of your products is a brand ambassador of India. When someone will buy and use your product, the customer should say with pride- now "This is Made in India". That's the mindset we need. You all should now aspire to win over the global market. The government is fully with you in realising this dream.

My dear countrymen,

Today, several new start-ups are being formed in different sectors of the country and even in smaller tier 2, tier 3 cities of the country. They also have a big role to play in getting entry of their Indian products into the inter-state market.The government stands with all its might, with these start-ups. Whether it is giving them financial help, cash discounts, rules simplification for them, the government is fully with them. We have seen that thousands of new start-ups have emerged in this difficult period of Corona. They are moving

forward with great success. Yesteryear's start-ups are becoming today's unicorns. Their market value is reaching thousands of crores of rupees.

These are new types of wealth creators in our country today. They are standing on their feet with the power of their unique ideas, moving ahead and walking with the dream of conquering the world. They are new kinds of wealth creators. They are moving by the force of their unique ideas and a dream to win over the world. In this decade, we need to relentlessly work towards making India's Startups and the Startup Ecosystem the best in the whole world.

My countrymen,

Political will is needed to bring about major changes and reforms. Today the world is witnessing that there is no dearth of political will in India. Good and smart governance is required to implement the reforms. Today the world is also a witness to how India is writing a new chapter of governance here. In this decade of 'Amrit Kaal', we will give priority to Next Generation reforms... We will ensure that all the facilities like service delivery should reach citizens up to the last mile; it should reach the last person seamlessly, without hesitation or any kind of difficulty. For the overall development of the country, unnecessary interference by the government and the government processes in the lives of the people has to be ended.

Earlier, the government itself was on the driving seat. This might have been the demand of that time. But now the time has changed. In the last seven years, efforts have also intensified in the country to liberate the people of the country from the web of unnecessary laws and procedures. Till now hundreds of old laws of the country have been abolished. Even during this period of Corona pandemic, the government has abolished more than 15,000 compliances. Now you see, you might have experienced a lot of hassles and paperwork for a small government work. That has been the situation so far. We have ended 15,000 compliances.

Just imagine.....I want to give you an example. A law has been in place in India for over 200 years, 200 years i.e. even before 1857. As per this law, the citizens of the country did not have the right to create maps. Now imagine, it was in place since 1857. If you want to create a map, then seek permission from the government, if you want to print the map in a book, then seek permission from the government; there is a provision for arrest if the map is lost. Nowadays every phone has a Map app. Satellites have so much power! Then how will we take the country forward with a burden of such laws? It is very important to get rid of this burden of compliances. We have abolished several regulations in various sectors like mapping, space, information technology and BPO.

My dear countrymen,

Freedom from the clutches of unnecessary laws is very important for both Ease of Living as well as Ease of Doing Business. Our country's industries and businesses are experiencing this change today.

Today dozens of labor laws have been subsumed into just 4 codes. Tax related arrangements have also been made easy and become faceless now. We will have to work together so that such reforms are not limited to the government only, but percolate down to gram panchayats, municipal corporations and municipalities. I am calling upon, making an earnest appeal to all the central and state departments to launch a campaign to review the existing rules and procedures. We have to get rid of every rule, every process which has become a hindrance and a burden for the people of the country. I know what has accumulated in 70-75 years will not go away in a day or in a year. But if we start working with a purpose, we will definitely be able to do this.

My dear countrymen,

Keeping this in mind, the government has also started Mission Karmayogi and Capacity Building Commission to increase people-centric approach in bureaucracy and improve their efficiency.

My dear countrymen,

Our education, education system, education tradition has a great role in preparing the youth, who are possessed with skill and ability, and who have the spirit to do something for the country. Today the country also has a new National Education Policy to meet the needs of the 21st century. Now our children will neither stop due to lack of skills nor will they be bound by language barriers. Unfortunately, there is a massive divide in our country regarding language. We have tied a huge talent of the country to the cage of language. One can find promising people in their mother tongue. If people from the vernacular medium come forward, their self-confidence will grow. Justice will be done to the potential of the poor children when they will become professionals by studying in their mother tongue.

I believe that language is the instrument of the fight against poverty in the new National Education Policy. This new National Education Policy is also going to be a great tool to fight against poverty in a way. The basis of winning the war against poverty is also the education, prestige and importance of the vernacular language. The country has seen this in the playground... and we are experiencing that language has not become a barrier and as a result we have seen that the youth are playing and blossoming. Now the same thing will happen in other fields of life as well.

Another special feature of the new National Education Policy is that sports has been made a part of mainstream education instead of extra-curricular. Sports is also one of the most effective means of pursuing life. It is very important to have sports in life for perfection in life. There was a time when sports was not considered mainstream. Parents also considered indulging in sports as wastage of life. Now, there is a new awareness about fitness and sports. We have seen and felt this in the olympics. This change is a big turning point for us. That is why, we need to speed up and expand the campaign that is going on in the country for infusing talent, technology and professionalism in sports.

It is a matter of pride for the country that our daughters are performing in an unprecedented manner in the fields of education, sports, Boards results or olympics. Today daughters are raring to occupy their place. We have to ensure that women have equal partnership in every career and workspace. We have to ensure that they feel safe from roads to the workplace and everywhere. There should be a feeling of respect for them and in this, the government, administration, police and justice system will have to perform their duty cent percent. We have to make this resolution , the resolution of the 75 years of Independence.

Today I am sharing good news with the countrymen. I used to get lakhs of messages from our daughters that they want to study in the Sainik Schools. The Doors of the schools should be opened for them. We dis aq pilot project in the Sainik School of Mizoram two-two and half years ago by giving admission to our daughters. Now the Government has decided that all the Sainik Schools will be open for the girls. Daughter too will study in all the Sainik Schools of the Country.

Environmental security is getting the same importance in the world as national security.Today India is a vibrant voice of environmental security, whether it is biodiversity or land neutrality, climate change or waste recycling, organic farming or biogas, energy conservation or clean energy transition. India’s efforts in environment are giving results today. Increase in forest cover, number of national parks, increase in number of tigers and Asiatic lions are a matter of happiness for the countrymen.

Among all these successes one truth needs to be understood. India is not yet energy independent. India today spends more than 12 lakh crore rupees annually for importing energy. For India's progress and to build a self-reliant India, India's energy independence is the need of the hour! Therefore today, India has to make a resolution to make India energy independent before the completion of 100 years of independence and our roadmap is very clear for the same. It should be a gas based economy. There should

be a network of CNG & PNG across the country. There should be a target of 20 percent ethanol blending. India is moving ahead with a set goal. India has also made a move towards Electric Mobility and the work on 100% electrification of Railways is also progressing at a fast pace. Indian Railways has set a target of becoming Net Zero Carbon Emitter by 2030. Besides these efforts, the country is also emphasizing on Mission Circular Economy. Our Vehicle Scrap Policy is a great example of the same. Today, India is the only country in the group of G-20 countries, which is moving fast towards achieving its climate goals.

India has set a target of 450 GW of renewable energy by the end of this decade - 450 GW by 2030. Of this, the target of 100 GW has been achieved by India ahead of schedule. These efforts are also instilling confidence in the world. The formation of the International Solar Alliance on the Global State is a great example of the same.

Of every effort being made by India today, the thing that is going to help India with a quantum leap in terms of climate is the field of Green Hydrogen. To achieve the goal of Green Hydrogen, I am announcing the National Hydrogen Mission today with this tricolour as a witness. We have to make India a Global Hub for Green Hydrogen Production and Export in the 'Amrit Kaal'. This will not only help India to make a new progress in the field of energy self-reliance but will also become a new inspiration for Clean Energy Transition all over the world. New opportunities from Green Growth to Green Job are opening up today for our start-ups & youth.

My dear countrymen,

Today, the 21st century India has the ability to create and achieve big goals as well. Today India is also solving those subject areas, which were hanging fires for decades and centuries. Be it a historic decision to abrogate Article 370, introduction of GST, a system that frees the country from the web of taxes, a decision regarding 'One Rank-One Pension' for our military friends, a peaceful solution to the Ram Janmabhoomi issue, we have seen it come true in a few years

India’s willpower is realizing all the resolutions whether it is the Bru-Reang agreement in Tripura after decades, constitutional status to the OBC commission or the BDC and DDC elections in Jammu and Kashmir for the first time since independence.

Even in this period of Corona, record foreign investment is coming to India. India's foreign exchange reserves are also at an all-time high. India has also given the message of the might of New India to the enemies of the country by carrying out surgical and air strikes. It shows that India is changing. India can change. India can take the toughest decisions and it does not hesitate and stop in taking even the toughest decisions.

My dear countrymen,

The nature of global relations has changed after the Second World War. There is a possibility of a new world order post Corona. The world has seen and appreciated India's efforts during Corona. Today the world is looking at India from a new perspective. There are two important aspects of this perception -- one is terrorism and the other is expansionism. India is fighting both these challenges and is also responding strongly in a restrained manner. Our defense preparedness has to be equally strong if India has to fulfil its obligations properly.

We are making constant efforts to provide new opportunities to our hardworking entrepreneurs and to encourage Indian companies to make the country self-reliant in the field of defence. I assure the country that we will leave no stone unturned to strengthen the hands of our forces engaged in the defense of the country.

My dear countrymen,

Today is also the birth anniversary of the great thinker of the country, Sri Aurobindo. His 150th birth anniversary will be celebrated in 2022. Sri Aurobindo was a visionary of India's bright future. He used to say that we have to be as powerful as we were never before. We have to change our habits. We have to re-awaken ourselves. These words of Sri Aurobindo remind us of our duties. We also have to think about what we are giving to the country as a citizen and as a society. We have always given importance to rights. They were needed during that period, but now we have to make duties paramount. Everybody will have to contribute in fulfilling the resolutions of the country. Every citizen will have to own this up.

Our country has initiated a campaign of water conservation, so it is our duty to include saving water in our habits. If the country is emphasizing on digital transactions, then it is also our duty to do minimum cash transactions. The country has started the campaign of Local for Vocal, so it is our duty to buy as many local products as possible. To strengthen our vision of a plastic-free India of the country, it is our duty to completely stop the use of single use plastic. It is our duty not to throw dirt in our rivers, keep our sea shores clean. We also have to take the Swachh Bharat Mission to another new level.

Today, when the country is celebrating the Amrit Mahotsav on the occasion of 75 years of independence, it is the duty of all of us to join this event, participate in it enthusiastically, and keep kindling our resolutions again and again. Keeping freedom struggle in mind, whatever little you do… whatever… will be pure like a drop of nectar, and this Amrit Kumbh made by the pure efforts of many Indians will inspire the entire nation for years to come.

My dear countrymen,

I am not a fortune teller, I believe in action. I have faith in the youth of my country, I trust the sisters of the country, the daughters of the country, the farmers of the country, and the professionals of the country. This 'CAN DO' generation can achieve every goal imaginable.

I believe that in 2047, on the occasion of celebrating 100 years of independence… whoever will be the Prime Minister… whoever will be the Prime Minister after 25 years from today, when he will be unfurling the flag… I say this with confidence today that he or she shall be chronicling those accomplishments in his speech about which the country has taken a vow today... This is my firm belief of victory.

Today whatever I am speaking of in the form of a resolution, whoever hoists the flag after 25 years, shall be speaking of the same in the form of accomplishments. The country would be singing its glory in the form of these accomplishments. Youth of the country of today, shall also see at that time how the country has achieved this glory.

In the 21st century, no obstacle can stop us from fulfilling the dreams and aspirations of India. Our strength is our vitality, our strength is our solidarity, our vitality is the spirit of nation first - always first. This is the time for shared dreams, this is the time for shared resolve, this is the time for shared efforts... and this is the time to move towards victory.

And so I say once again-

This is the time,

This is the time.. the right time!

India's precious time!

This is the time, the right time! India's precious time!

The power of countless arms,

The power of countless arms,

There is patriotism everywhere!

There is the power of innumerable arms, there is patriotism everywhere…

Come, rise and unfurl the Tricolour!

Come, rise and unfurl the Tricolour!

Turn the fate of India,

Turn the fate of India,

This is the time, the right time! India's precious time!

There is nothing..

There is nothing you cannot do,

There is nothing you cannot achieve,

You Rise...

You Rise and Begin,

Recognize your abilities,

Recognize your abilities,

Understand all your duties,

Understand all your duties!

This is the time, the right time! India's precious time!

When the country completes 100 years of independence, the goals of the countrymen must be turned into reality; that is my desire. With my best wishes, I once again congratulate all the countrymen on the 75th Independence Day! Say aloud with your fists up -

Jai Hind,

Jai Hind,

Jai Hind!

VandeMatram,

VandeMatram,

VandeMatram!

Long live Mother India,

Long live Mother India,

Long live Mother India!

Thanks a lot!

PRESIDENT JOE BIDEN HOLDS A PRESS CONFERENCE WITH GERMAN CHANCELLOR OLAF SCHOLZ

FEBRUARY 7, 2022

SPEAKERS:
PRESIDENT JOSEPH R. BIDEN JR.

GERMAN CHANCELLOR OLAF SCHOLZ

BIDEN: Please, sit down. Thank you. Good afternoon. I'd like to start by thank Chancellor Scholz for making his visit to Washington. We had an opportunity to have a very productive meeting. I think our staffs wondering whether we're going to let them in at all.

We spent the first half hour or more talking together and -- and it's been a very, very useful meeting. One of the things that struck me was the shared values. And that shape how each of us approaches leadership, among then the foundational commitment to the dignity of workers and the need to treat all people with respect.

So I enjoyed speaking with you, Olaf, and I know working together will continue to strengthen and deepen our alliance and the extensive partnership between Germany and the United States.

Of course at the top of our agenda today was our united approach to deterring Russia's threats against Ukraine and the long standing principles of rural based international order. That's what we spent most of our time talking about.

Germany and the United States together with our allies and partners are working closely together to pursue diplomatic resolutions of this situation and diplomacy is the very best way forward for all sides, we both agree, including best for Russia, in our view.

And we have made it very clear we're ready to continue talks in good faith with Russia. Germany has also been a leader in pushing de-escalation of tensions and encouraging dialogue through the Normandy format.

But if Russia makes a choice to further invade Ukraine, we are jointly ready and all of NATO is ready. Today the Chancellor and I discussed our close cooperation and developed strong package of sanctions that are going to clearly demonstrate international resolve and impose swift and severe consequences if Russia violates Ukraine sovendy (ph) and its territorial integrity.

And I want to thank Germany and our -- and all of our other partners in Eastern Europe and the European Union for their work in this united effort. We are in agreement that it cannot be business as usual if Russia further invades.

We also discussed our shared commitment to NATO's Article 5 responsibilities and reassures of our Eastern flank allies. We're united in that as well. Already the United States is sending troops to reinforce the alliance. And I want to thank the chancellor of Germany for hosting additional U.S. forces and for the long standing hospitality to our women and men in Uniform.

We also discussed the challenges you're facing to the international order from China, along with Russia and other competitors that are pursuing more liberal futures. We've agreed that Germany and the United States will continue to work together to insure that the rules and principles governing emerging technologies are geared to advance freedom of opportunity, not repression or authoritarianism.

We also reaffirmed our commitment to completing the work of integrating the Western Balkans into the European institutions and to finally realize Europe as whole, free, and at peace.

With Germany holding the presidency of the G7 we also talked about how that form can harness the world's leading democracies to advance a robust agenda of global -- on global challenges from ending the pandemic to addressing climate change.

So the bottom line is this, whether as allies in NATO, partners through the European Union, as leaders of the G7 to G20 or through our strong bilateral relationship, Germany and the United States are close friends and reliable partners and we can count on one another.

There's no issue of global importance where Germany and United States are not working together, strength to strength and applying and amplifying our efforts together. So I want to thank you all for making the journey today and I look forward to being the first of many opportunities we can spend together beginning this meeting and throughout the rest of the year and rest of your terms. So thank you and welcome. The floor is yours.

SCHOLZ (THROUGH TRANSLATOR): Thank you very much. Good afternoon from my side as well. I'm very grateful that we had the opportunity to talk in much detail today and that I was able to make my first official visit here and that we also could talk about the important questions that we're dealing with today. We are in a very difficult situation and it is a good thing that Joe and I were able to discuss what we need to do in this difficult context.

Of course there is a military threat in Ukraine, against Ukraine. We cannot remain silent on that. We see the number of Russian troops along the Ukrainian border and that is a serious threat to European security and this is why it is important that we act together, that we stand together and that we do what is necessary together.

It is important that all allies, the U.S. and Germany, the Trans-Atlantic partnership between the U.S. and Europe, NATO say the same things; speak with one voice and do things together. And we made it very clear if there was a military aggression against Ukraine, this will entail severe consequences that we agreed upon together, severe sanctions that we have worked on together.

So there will be a high price for Russia. This is a very clear message; everybody has understood it and I think this message has been made clear again and again so that even Russia has understood the message now. What is important is that we also intensively work on preparing possible sanctions together.

We don't want to start once there is a military aggression against Ukraine. We have prepared a reaction that will help us to react swiftly if needed. And we will do that. At the same time it important to use all diplomatic means we have and I'm very glad about your great willingness to move forward together, especially the bilateral talks between the U.S. and Russia.

And of course the talks that we have agreed upon within the NATO/Russia format. This is also important also because Russia needs to understand that NATO stands together and that NATO is prepared after so many years. There have not been any talks in this format, so it is a good sign that they are happening now.

Of course we have controversial debates there, but it is important that we talk and the same is true for the OSCE. Well, we need to discuss about security in Europe. This is also a progress as tiresome as it maybe and we have not yet reached any very substantial conclusions yet but it is good to see that this format plays a role now and the same is true for the talks between Ukraine, Russia, France and Germany; the Normandy format.

We have this format but we haven't been able to really use it in a productive way over the last few years. So now we have come back to that format. We're having tough discussions in that format and that shows that there are ways that will lead us out of this difficult situation and this dual track approach of clear announcements with regard to sanctions that will be taken if there is a military aggression and at the same time keeping all dialogue formats open.

I think this is the most promising strategy one can have and that is what we're doing together. I was then side by side in this approach. We also talked about many other topics that are important for us today, especially when it comes to the G7 presidency of the Federal Republic of Germany we will work closely as strong economies, strong democracies and we also therefore have a special mandate to contribute to cohesion worldwide.

And part of that we continue to everything we can to make sure that the citizens of the world can be vaccinated, not only in our

rich countries but also in countries where people would love to have the vaccine but don't have access yet.

And these initiatives that we have carried out together and that are of upmost importance worldwide, the same is true for fighting man made climate change, a big topic that keeps us all busy even though it is obvious that only a global solution can be successful because climate is a global thing.

It doesn't stop at national borders. As an industrialized nations we have an important contribution to make. We have technological opportunities, economic opportunities and have to use them in order to prepare a situation where we and others can enjoy prosperity without harming the climate. This is the big challenge that we see and that is of great importance to us.

So this is why we want to work together on this strategy and use a climate club of like minded people and partners. These are some of the topics we discussed. And once again the personal discussion we had illustrates the excellent cooperation between our countries, the strong bond we have with our Trans-Atlantic partnership and the fact that those countries can rely on each other.

BIDEN: -- much. We'll now take a couple question each. Reuters, Andrea (ph), you got the first question.

QUESTION: Thank you, Mr. President and thank you Chancellor Scholz. Mr. President, I had wanted to ask you about this Nord Stream project that you've long opposed. You didn't mention it just now by name nor did Chancellor Scholz. Did you receive assurances from Chancellor Scholz today that Germany will in fact pull the plug on this project if Russia invades Ukraine? And did you discuss what the definition of invasion could be.

And then Chancellor Scholz --

QUESTION (THROUGH TRANSLATOR): If I may ask you Chancellor Scholz, you said there was some strategic ambiguity that was needed in terms of sanctions. I just wanted to know whether the sanctions you are envisaging and that you is working on and the U.S. as well are already finished, finalized or is there still work ongoing?

And you're not really saying what the details are. Is that just an excuse for Germany maybe to not support the swift measures?

BIDEN: The first question first. If Germany -- if Russia invades, that means tanks or troops crossing the border of Ukraine again, then there will be -- we -- there will no longer a Nord Stream 2. We will bring an end to it.

QUESTION: But how will you -- how will you do that exactly since the project and control of the project is within Germany's

control?

BIDEN: We will -- I promise you we will be able to do it.

SCHOLZ (THROUGH TRANSLATOR): Thank you very much for your question. I want to be absolutely clear. We have intensively prepared everything to be ready with the necessary sanctions if there is a military aggression against Ukraine and this is necessary.

It is necessary that we do this in advance so that Russia can clearly understand that these are far reaching severe measures. It is part of the -- this process that we do not spell out everything in public because Russia could understand that there might be even more to come. And at the same time it is very clear we are well prepared with far reaching measures. We will take these measures together with our allies, with our partners, with the U.S. and we will take all necessary steps.

You can be sure that there won't be any measures in which we have a differing approach. We will act together, jointly.

SCHOLZ: Save to our American friends, we will be united, we will act together and we will take all the necessary steps and all the necessary steps will be done by all of us together.

QUESTION: (Inaudible) to turning off and pulling the plug on Nord Stream 2. You didn't mention it, you haven't mentioned it.

SCHOLZ: As I already said, we are acting together. We are absolutely united and we will not take different steps. We will do the same steps and they will be very, very hard to Russia and they should understand.

BIDEN: You recognize someone now, Chancellor.

SCHOLZ: (Inaudible). Yes.

QUESTION (THROUGH TRANSLATOR): Michelle Fisher (ph) DPA. Mr. President, one question to you. The U.S. over the last few years have exported heavy weapons to Ukraine and Germany, excludes that, has only delivered 5,000 helmets to Ukraine.

Don't you think that NATO should act unanimously in this respect and Germany as the strongest European NATO partner should also deliver heavy weapons to Ukraine? And Ukraine has asked Germany to do so.

And on Nord Stream 2 I would also like to ask, don't you think with regard to the threat posed by Russia Germany should already rethink its position on Nord Stream 2? And a third question, if I may, over the last few days and weeks there have been severe criticism from the U.S. media and from Congress as well vis-a-vis

Germany about the reliability of Germany as an ally. This has been called into question.

Do you understand this criticism? Is Germany a reliable partner from your point of view? And Mr. Chancellor, also a question to you and Nord Stream 2, you said all options are on the table, you're not mentioning Nord Stream 2 by name. Don't you think if you were to spell this out you could win back trust as a strong ally here for the U.S.?

BIDEN: There's no need to win back trust. He has the complete trust of the United States. Germany is our -- one of our most important allies in the world. There's no doubt about Germany's partnership with United States. None.

With regard to helping Ukraine, one of the largest contributors financially to Ukraine has been Germany. Germany has been in the forefront of making sure -- providing economic assistance. You also asked the question -- you asked so many, I can't remember them all, but in terms of the U.S. media saying Germany is not reliable, Germany is completely reliable. Completely, totally, thoroughly reliable. I have no doubt about Germany at all.

SCHOLZ (THROUGH TRANSLATOR): We are united and the Trans-Atlantic partnership between Germany and the U.S. is one of the permanent pillars of German policy and it will be relevant in the future as well, just as relevant. And this will be one of our top priorities always.

On behalf of NATO we are the country in continental Europe that is doing -- making the largest contribution, financial means and also military power and we are the country that contributes a great share. We're not fully -- we don't fully agree (ph) with the U.S. who pays the biggest part of the financial support to Ukraine as though -- since 2014 about $2 billion direct bilateral support and within the E.U. an additional 3.8 billion that is made available.

So a substantial financial means to stabilize the Ukrainian economy and we're willing to continue with that sort of contribution. So this is the very strong and unbreakable friendship between our two countries, part of this is that with regard to the difficult situation at the Ukrainian border, due to the Russian troops we have made it very clear we will unanimously act in terms of sanctions.

QUESTION (THROUGH TRANSLATOR): Mr. President, once again, a question with regards to arms exports. Do you think it is OK that NATO partners have different approaches here? And Nord Stream 2, once again, do you think the current positioning of Germany with regard to the Russian threat is OK?

BIDEN: Look, there is no doubt in America's mind that Germany

is an incredibly reliable ally and one of the leading physical powers in NATO, number one. Number two, the notion that Nord Stream T would go -- Nord Stream 2 would go forward with an invasion by the Russians is just not going to happen.

Now, Wall Street Journal, Sabrina (ph).

QUESTION: Thank you, Mr. President. Based on everything you know now, do you think that President Putin will authorize an invasion of Ukraine before the end of the winter and what is your message to the roughly 30,000 Americans who are currently in Ukraine? Do you think that they should leave the country?

BIDEN: Well, I've had discussions, numerous discussions with Russians and particularly with Putin. I don't know that he's even made a -- I don't know that he knows what he's going to do. And I think he has to realize that it would be a gigantic mistake for him to move on Ukraine, the impact on Europe and the rest of the world would be devastating and he would pay a heavy price.

I have been very, very straight forward and blunt with President Putin both on the phone and in person. We will impose the most severe sanctions that have ever been imposed, economic sanctions. And there will be a lot to pay for that down the road. It will affect others as well.

It will affect us somewhat and it will affect Europeans but it will have profound impact on his economy and I -- I -- but I don't know. I know that he's in a position now to be able to invade almost assuming that the ground is frozen about Kiev.

He has the capacity to do that. What he's going to do I don't know. And I don't think anybody knows but him.

QUESTION: To the Americans who are currently in Ukraine, should they leave the country?

BIDEN: I think it'd be wise to leave the country. I don't mean our -- I don't mean -- I'm not talking about our diplomatic core, I'm talking about Americans who are there, I'd hate to see them get caught in the crossfire if in fact they did invade and there's no need for that.

And I -- if I were they -- if I had anyone there I'd say leave.

QUESTION: And to Chancellor Scholz, can you outline specific steps that Germany is taking to reduce its energy dependants on Russia and what do you say to those who suggest that German reliance on Russian gas is limiting Europe's options for how to respond to the crisis in Ukraine.

SCHOLZ (THROUGH TRANSLATOR): Thank you very much for raising

that question because it gives me the opportunity to address a topic that's important to me, one good news maybe within its strategy on fighting man made climate change Germany has decided at very short -- in a very short period of time to phase out the use of oil and gas by very soon. And by 2045 Germany will have a carbon neutral economy as one of the strongest economies of the world.

And with regard to these energies, we often think about heating at home and driving a car but we're talking about industrial protection producing steel, chemical substances, cement and changing these industrial processes and reorganizing such systems is what we have planned.

So this year we will continue to take far reaching decisions that will help us to use more wind energy, offshore wind energy, onshore wind energy and solar energy and expand the capacities, expand the grids and have a strategy for Germany but also worldwide on the use of hydrogen which is a central element for us to change our industrial processes that are using oil and gas right now.

The industry is willing to be on board. We're doing this together with them but it will probably be the biggest industrial modernization project in Germany in 100 years with very good prospects that we'll develop new technologies that other partners in the world can use as well and this will help us fight climate change.

And by the way, the energy mix today we are talking about one quarter of our energy that is linked to gas and only part of that gas comes from Russia, a big part comes from Norway or the Netherlands.

And of course it is very important to us that we develop and infrastructure that will give us the opportunity to have all options available and react if needed so you don't have to be concerned. There are some who should be concerned who see themselves maybe too much as a deliverer of such resources because we are focusing on renewable energies.

We will go down that bath and -- and make sure that this is the profitable feature. Mr. Lincoln (ph).

QUESTION: Mr. President --

QUESTION (THROUGH TRANSLATOR): Mr. President, I would like to ask you a question about LNG. Germany and Europe much more dependent on Russian gas than other regions of the world and you promised European allies to help with LNG. But this resource is more expensive. It's not available in the volumes that might be needed to replace Russian gas.

And I would like to know from you how you would help Europeans in case of a conflict with Russia. Is this an empty promise or what

can you really do, what can you offer. And in addition the U.S. are buying oil from Russia worth billions of dollars and I would like to know whether these transfers are also part of the sanctions package against Russia?

And Mr. Chancellor, liquefied natural gas, there is a big controversy in Germany about fracking gas. And how far is LNG even a real replacement or is it also with a view to the climate club you intend to found is it really an alternative to Russian pipeline gas?

BIDEN: Now let me respond. First of all, we are looking at opportunities to make up for lost gas, LNG, from Russia. We're underway of trying to see what we can do to do that. And dealing with our friends around the world as well we think we could make up a significant portion of it that would be lost.

But now what everybody forgets here is that Russia needs to be able to sell that gas and sell that oil. Russia relies -- a significant part of Russia's budget. It's the only thing they really have to export. And if in fact it's cut off then they're going to be hurt very badly as well. And it's of consequence to them as well.

This is not just a one way street. And so we are looking at what we could do to help compensate for loss of -- immediate loss of gas in Europe if it occurs and that's what we've been working on for some time now.

SCHOLZ (THROUGH TRANSLATOR): I can confirm that we work closely with the United States of America and Joe Biden and I are working closely together as well. We are prepared for all kinds of situation and that's part of what we do when we say prepare sanctions. That means we need to be able to react at any time. And this is happening.

With regard to the use of LNG, I can say that the biggest volume of LNG used across the world is the gas and that is part of the debated. Concerning a long term perspective I already outlined what this is about. We will modernize our economy and where gas is being used we will switch to hydrogen. This will be a process that will be fast -- it will happen faster than many might imagine today and that will great a bright future for all of us.

BIDEN: Thank you very much.

QUESTION: One more --

BIDEN: Appreciate it.

QUESTION: Do you still believe that the (inaudible)?

BIDEN: Yes?

QUESTION: Do you -- do you believe there's still (inaudible) possibility given that there are 100,000 troops at the border?

BIDEN: The answer is yes.

QUESTION: How -- how? (Inaudible).

END

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Sens. Kelly, Hassan Lead Colleagues in Introducing Bill to Lower High Gas Prices at the Pump

- February 9, 2022

Bill would temporarily suspend the federal gas tax, provide families economic relief from high gas prices

Bill would eliminate 18 cents per gallon gas tax

Today, U.S. Senators Mark Kelly (D-AZ) and Maggie Hassan (D-NH) are introducing the *Gas Prices Relief Act*, legislation to lower high gas prices by temporarily suspending the federal gas tax through the end of the year, bringing much-needed economic relief to families across Arizona and the country. Kelly and Hassan's bill is also co-sponsored by Senators Debbie Stabenow (D-MI), Catherine Cortez Masto (D-NV), Raphael Warnock (D-GA), and Jackie Rosen (D-NV).

"Arizonans are paying some of the highest prices for gas we have seen in years and it's putting a strain on families who need to fill up the tank to get to work and school," **said Senator Kelly.** "This bill will lower gas prices by suspending the federal gas tax through the end of the year to help Arizona families struggling with high costs for everything from gas to groceries."

"This legislation is about making sure that we get Granite Staters relief at the gas pump. People are feeling a real pinch on everyday goods, and we must do more to help address rising costs, particularly the price of gas,"**said Senator Hassan**. "We need to continue to think creatively about how we can find new ways to bring down costs, and this bill would do exactly that, making a tangible difference for workers and families."

"This is important legislation that will help us lower costs for Nevada families," **said Senator Cortez Masto.** "I'm committed to finding solutions that bring our families some much-needed relief at the pump and help them get ahead."

"Whether it's working to ease supply chain issues, crack down on corporate greed, or cap out-of-pocket costs for prescription drugs, I'm committed to lowering rising costs for Georgia families," **said Senator Reverend Warnock.** "Hardworking Georgians being squeezed at the pump understand that every penny counts. I'm proud to join my colleagues in introducing the Gas Prices Relief Act to help working and middle class families overcome the economic pressures of the pandemic, and come out on top."

The Gas Prices Relief Act will lower high gas prices and deliver much-needed economic relief to Americans across the country by:

- **Suspending the 18.4 cents per gallon federal gas tax <u>until January 1, 2023</u>**. Currently, the national average for the cost of a gallon of gas is nearly

one dollar higher than it was at the same time last year, according to AAA. Last year, Arizona was ranked by AAA as one of the **most** expensive markets for gas prices.

- **Passing tax savings to Americans and not oil and gas companies** by requiring the Secretary of the Treasury to monitor the program in order to ensure oil and gas companies pass along the savings at the pump to consumers. The bill also encourages the Secretary to take appropriate enforcement actions to ensure consumers see these savings.
- **Maintaining the integrity of the Highway Trust Fund** by requiring the Department of the Treasury to make general fund transfers to keep the Highway Trust Fund solvent.

Kelly's legislation builds on his work in the Senate to lower rising costs for Arizona families by tackling supply **CHAIN ISSUES** driving up prices for **GAS** and **FOOD**. Kelly has successfully **PUSHED** the Biden administration to take immediate steps to bring down these higher prices like increasing domestic oil and gas production.

Hassan has been working across the aisle to lower costs for Granite Staters and get relief to New Hampshire. Hassan **SUCCESSFULLY** called on the Biden administration to **TAKE ACTION** to help lower energy costs by releasing oil from the Strategic Petroleum Reserve. Last week, Hassan and Senator Blunt introduced a **BIPARTISAN BILL** to provide tax relief to middle class homeowners that would permanently extend a tax deduction for homebuyers.

To read the text of the Gas Prices Relief Act, click **HERE**.

No related posts.

Canadian Crude Inventories Shrink in Threat to U.S. Supplies
2022-02-08 19:04:34.248 GMT

By Robert Tuttle
(Bloomberg) -- Canadian crude inventories are dwindling as oil-sands producers prepare to shut some operations for maintenance, potentially adding to U.S. supply woes
Crude stockpiles in Western Canada have fallen by more than 14 million barrels since early November, to less than 25 million at the end of January, according to Wood Mackenzie data. At about 36% of storage capacity, this marks the lowest utilization rate observed by Wood Mackenzie during this time of year, analyst Dylan White said by email.
Canada, the U.S.'s biggest foreign oil supplier, has boosted shipments south of the border after new pipeline capacity came online, but the country's stockpiles are shrinking as top producers including Suncor Energy Inc., Canadian Natural Resources Ltd. and Exxon Mobil Corp.'s Imperial Oil plan major maintenance starting as early as next month.
Canada's maintenance season could contribute to a global supply shortfall that has sent benchmark U.S. oil prices surging past $90 a barrel for the first time since 2014 and has prompted several Wall Street banks to predict $100 oil this year.
Suncor's Firebag oil-sands well site will undergo maintenance from May 16 to July that will reduce production by 65,000 barrels a day in the second quarter, and by 20,000 in the third, according to the a local union and company announcements.

Imperial's massive Kearl oil sands mine, Cold Lake well site and at least three upgraders will also undergo work as well.
Canadian heavy crude's discount to West Texas Intermediate futures have narrowed to $14 a barrel from more than $20 in November, NE2 Group data show. Last week, light synthetic crude, produced in an oil sands upgrader, traded at its biggest premium to futures since April.

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Strike Vote at Canadian Pacific Railway

Teamsters Canada will conduct a strike vote among its 3,000 members of Canadian Pacific Railway and the results will be determined by the end of February...

Montreal, February 10, 2022 - The Teamsters Canada Rail Conference (TCRC) has served a Notice of Dispute to the Minister of Labour under the Canada Labour Code in accordance with the Canada Labour Code regarding its dispute with CP Rail. The main issues at hand include wages, benefits and pensions.

The Teamsters Canada Rail Conference is conducting a strike vote among its more than 3,000 Locomotive Engineers, Conductors, Trainpersons and Yardpersons. The strike vote results will be tabulated in late February.

The Minister of Labour has appointed a conciliator/mediator to support the process. Representatives from the Teamsters Canada Rail Conference and CP Rail are currently meeting with the conciliator.

A legal work stoppage can only take place 21 days after the conciliation process is complete.

The Teamsters Union represents the interests of 125,000 members in Canada, 16,000 of whom work in rail transportation. They are affiliated with the International Brotherhood of Teamsters, which has 1.4 million members in North America.

-30-

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https://venezuelanalysis.com/news/15453

Venezuela: Storage Bottleneck Causes Setback in Oil Output and Exports

Caracas is reportedly in talks with bondholders to restructure its debt while Chevron is allegedly lobbying Washington for a sanctions waiver.

By **Andreína Chávez Alava**

Feb 12th 2022 at 8.27pm

https://venezuelanalysis.com/YipX

Guayaquil, Ecuador, February 12, 2022 (venezuelanalysis.com) – Venezuela's oil production and exports have declined once more after a months-long steady rise.

The latest Organization of Petroleum Exporting Countries (OPEC) report placed the Caribbean country's January output at 668,000 barrels per day (bpd), a slide from the previous month's 718,000 bpd, as measured by secondary sources. For its part, state oil company PDVSA documented a 755,000 bpd, 116,000 bpd less than December.

The slip in oil output comes as PDVSA runs out of available storage due to mounting inventories of diluted crude oil (DCO), a less exportable grade due to its high sulfur and water content. According to Reuters, the country has 8.5 million barrels of DCO stored, limiting room for newly extracted crude and forcing the use of floating storage.

In January, PDVSA booked its first shipment of diluted crude oil in nine months in an attempt to free storage space. However, internal documents showed that the vessel never set sail and it is unknown whether the purchase was canceled or rescheduled.

The current inventory bottlenecks have been likewise aggravated by returned cargos with some buyers rejecting an alleged lesser crude quality. As a result, PDVSA's exports tumbled to 416,387 bpd in January, a 34 percent drop from December.

Throughout 2021, Caracas managed to ramp up production, with the country averaging some 650,000 bpd last year and even registering a one-day spike of one million barrels per day in December according to PDVSA sources.

The oil production upsurge was largely attributed to a steady supply of Iranian condensate with at least three consecutive shipments as part of a crude-for-condensate swap deal signed between the two allied nations in September 2021. On February 1, Venezuela received this year's first cargo with some 2.1 million bpd of the much-needed diluent.

Iran's condensate has proved crucial for Venezuela's oil sales as it turns the country's extra-heavy crude into exportable grades. Last year, Caracas achieved a one percent annual increase in average exports by shipping roughly 627,000 bpd mostly to Asian markets. The boost halted a four-year free-fall in the country's top income source.

However, substantial repairs, large investments, and new equipment continue to be a priority for sustainable output and exports as Venezuela struggles to recover its oil infrastructure, which has been severely deteriorated under Washington's crippling sanctions.

In efforts to oust the Nicolás Maduro government through economic hardship, the US Treasury Department levied a raft of financial sanctions against PDVSA in 2017 followed by an oil embargo in 2019, forcing foreign companies to abandon operations in joint oil ventures and cutting the country off from international markets.

Washington's sanctions have likewise blocked PDVSA from servicing its US $34.9 billion debt, making it harder to stabilize the industry and secure new funding. In response, the Venezuelan government has announced an ongoing dialogue process with bondholders to restructure payments as well as reach other solutions. Previous debt renegotiation efforts were scuppered by US coercive measures.

Unilateral sanctions had forced foreign companies to wind down their Venezuela activities. According to Bloomberg, Chevron is currently in talks with Caracas to boost production in their joint ventures. The negotiations are reportedly being led by Chevron's Venezuelan chief division, Javier La Rosa, and PDVSA's president Asdrúbal Chávez.

A Reuters report added that the oil giant has also held at least one high-level meeting with US diplomats looking for an exemption that would allow the corporation to receive crude cargoes as debt payment. The White House has not confirmed or provided details of these discussions.

"The Biden administration has more and more incentives to ease sanctions on Venezuela after Trump's failed strategy," said one unidentified person involved in the meetings.

Despite mounting difficulties to recover its most important industry, Venezuela continues showing signs of economic recovery. The country's central bank reported that inflation slowed down for the fifth consecutive month registering 6.7 percent in January. In 2021, inflation closed at 686.4 percent after several years marked by hyperinflation.

The stabilization of the local currency has been a priority in recent months after de-facto dollarization gripped the country beginning in 2019. On February 4, Venezuela's National Assembly (AN) presented a bill to implement a new tax on crypto and foreign currency transactions ranging between 2 and 20 percent.

"What has been happening up until now is that the rich, the large companies have pocketed dollars while not giving the Venezuelan state a single cent [in taxes]," explained the parliament's president Jorge Rodríguez. The reform is still under discussion and has not been approved.

In turn, President Maduro stated that the tax on dollar transactions would help strengthen the digital bolívar, explaining that the measure only affects the nation's wealthier sectors.

"The National Assembly approved a tax so that millionaires pay more, not the [working-class] people. It will allow us to raise salaries," said Maduro on Monday.

Edited by Ricardo Vaz from Caracas.

https://www.whitehouse.gov/briefing-room/statements-releases/2022/02/12/readout-of-president-bidens-call-with-president-vladimir-putin-of-russia/

Readout of President Biden's Call with President Vladimir Putin of Russia

FEBRUARY 12, 2022•STATEMENTS AND RELEASES

President Joseph R. Biden, Jr. spoke today with President Vladimir Putin of Russia about Russia's escalating military buildup on the borders of Ukraine. President Biden was clear that, if Russia undertakes a further invasion of Ukraine, the United States together with our Allies and partners will respond decisively and impose swift and severe costs on Russia. President Biden reiterated that a further Russian invasion of Ukraine would produce widespread human suffering and diminish Russia's standing. President Biden was clear with President Putin that while the United States remains prepared to engage in diplomacy, in full coordination with our Allies and partners, we are equally prepared for other scenarios.

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CRISIS IN UKRAINE
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Biden told Putin that the United States is ready for diplomacy with Russia and other scenarios

The Presidents of the United States and Russia discussed the alleged Russian build-up of forces on the border with Ukraine

WASHINGTON, February 12th. /TASS/. US President Joe Biden, in a telephone conversation with Russian leader Vladimir Putin, discussed the alleged Russian buildup of forces on the border with Ukraine and said that Washington is ready for both further diplomatic interaction with Moscow and other scenarios. This is stated in a written statement released on Saturday by the White House press service.

According to these data, Biden discussed with Putin "Russia's increasing buildup of military forces on the borders with Ukraine." The head of the White House warned that the United States would give a decisive and quick response in the event of an "invasion" of the Russian Federation into this country. "President Biden made it clear to President Putin that while the United States remains ready for diplomatic engagement in full coordination with our allies and partners, we are equally prepared for other scenarios," the statement said.
The White House reported that the conversation between the presidents of Russia and the United States ended on Saturday at 12:06 Washington time (20:06 Moscow time).
According to the American side, the conversation lasted more than an hour. It began, as previously stated by the White House, at 11:04 a.m. east coast time of the United States (19:04 Moscow time). The head of the US administration is spending this weekend at his residence in Camp David (Maryland).
As the press secretary of the Russian leader Dmitry Peskov reported earlier, the initiative to hold the conversation came from Washington, and "the request was preceded by a written request from the American side."
The presidents of Russia and the United States had previously communicated by phone at the end of last year. On December 7, they had negotiations via videoconference. The first face-to-face meeting between Putin and Biden as heads of state took place in Geneva in June 2021.

Oil Market Highlights

Crude Oil Price Movements

Crude oil spot prices rebounded in January, compared to the previous month, as oil futures markets surged. Crude prices were supported by strong global oil market fundamentals amid dissipating fears about the impact of the COVID-19 Omicron variant and geopolitical risks, which raised concerns about near-term oil supply. The OPEC Reference Basket increased $11.03, or 14.8%, to settle at $85.41/b in January, its highest monthly value since September 2014. Similarly, crude oil futures prices increased on both sides of the Atlantic with the ICE Brent front month up $10.77, or 14.4%, in January to average $85.57/b and NYMEX WTI rising by $11.29, or 15.7%, to average $82.98/b. As a result, the Brent/WTI futures spread narrowed by 52¢ to an average of $2.59/b. The market structure of all three crude benchmarks – ICE Brent, NYMEX WTI and DME Oman – strengthened significantly in January over the previous month as market perception of the outlook for the supply-demand balance improved. Hedge funds and other money managers turned more positive about oil prices, increasing net long positions to their highest level since last November.

World Economy

Results for 4Q21 have been reported for major economies, with particularly better-than-expected growth levels in the US and China. Consequently, the world GDP growth estimate for 2021 is revised up to 5.6% from 5.5% in the previous assessment. Global growth for 2022, however, remains unchanged at 4.2%. US GDP was reported at 5.7% for 2021, while the growth forecast for 2022 remains unchanged at 4%. Euro-zone economic growth for 2021 and 2022 remains at 5.2% and 3.9%, respectively. Japan's economic growth forecast for 2021 and 2022 is unchanged at 1.8% for 2021 and 2.2% for 2022. China's 2021 growth was reported at 8.1% and the forecast for 2022 remains at 5.6%. India's forecast for 2021 is unchanged at 8.8%, while the 2022 forecast was revised up to 7.2% from 7% previously, taking into account the acceleration in growth levels in 2H21 and an expected carry-over into 1H22. Russia's GDP growth forecast remains at 4% for 2021 and 2.7% for 2022. Brazil's economic growth forecast for 2021 is unchanged at 4.7% and remains at 1.5% for 2022. Key uncertainties remain the spread of COVID-19 variants and the effectiveness of vaccines, as well as the pace of vaccine rollouts worldwide. Moreover, supply chain bottlenecks and sovereign debt levels in many regions, together with rising inflationary pressures and the responses of central banks, also require close monitoring.

World Oil Demand

World oil demand growth in 2021 is revised up slightly by 17 tb/d, reflecting the latest data trends across the regions, to now stand at 5.7 mb/d. Both 3Q21 and 4Q21 figures for OECD Americas are revised higher, mainly as a result of the better performance in the US, confirming the upward revisions taken last month. Overall, non-OECD growth in 2021 increased by 3.1 mb/d while the OECD recorded growth of 2.6 mb/d. In the OECD, the US continued to be the major driver of oil demand, recording growth of 1.6 mb/d. In 2022, oil demand growth is expected at 4.2 mb/d unchanged from last month, with OECD and non-OECD projected to grow by 1.8 mb/d and 2.3 mb/d, respectively. In the OECD, optimism arises from economic growth with the supportive effects of fiscal and monetary policies expected to more than offset the negative effects from Omicron on oil demand. Industrial activities are also anticipated to accelerate, boosting diesel demand. Meanwhile, mobility has recovered substantially with domestic, regional and international flights already showings signs of recovery.

World Oil Supply

Non-OPEC liquids supply growth in 2021 is revised down by 0.06 mb/d to around 0.6 mb/d y-o-y, to average 63.6 mb/d. An upward revision, mainly to the US, was offset by downward revisions in the supply forecasts of other countries such as Brazil, China, Canada, Ecuador and the UK due to unexpected lower output in 4Q21. The 2021 oil supply forecast primarily sees growth in Canada, Russia, the US, China, Guyana, Argentina, Qatar and Norway, while output is projected to decline in the UK, Brazil, Colombia and Indonesia. For 2022, non-OPEC supply growth remained unchanged at 3.0 mb/d y-o-y, to average 66.6 mb/d. The main drivers of liquids supply growth are expected to be the US and Russia, followed by Brazil, Canada, Kazakhstan, Norway and Guyana. OPEC NGLs are forecast to grow by 0.1 mb/d both in 2021 and 2022 to average 5.1 mb/d and 5.3 mb/d, respectively. In January, OPEC crude oil production increased by 0.06 mb/d m-o-m, to average 27.98 mb/d, according to available secondary sources.

Product Markets and Refining Operations

Refinery margins on the US Gulf Coast versus WTI and in Singapore versus Oman showed strong performance in January, gaining $1.42/b and 50¢/b, respectively, m-o-m, as global product inventory levels reached multi-year lows. However, in Europe refinery margins lost $1.20/b versus Brent, as they were affected not only by higher crude prices, but also record-high natural gas prices, as nearly 80% of all European refineries depend on natural gas to power their plants. In all regions, the strongest positive margin contributor was gasoil, as inventories for that product continued to fall, leading to a higher premium relative to crude oil. At the same time, preliminary data shows global refinery runs rose only slightly, limited by a winter storm that affected operations in parts of the US, hampering a higher upturn in total refinery intakes.

Tanker Market

Coming off a year that saw multi-decade lows, dirty tanker spot freight rates began 2022 close to the bottom end of the five-year range, even as rising bunker fuel prices weighed on earnings. VLCC rates in particular continued to languish in the doldrums while Suezmax and Aframax rates came down from an improved performance at the end of last year. Clean spot freight rates also experienced a similar decline from a slight lift seen at the end 2021 driven by heating demand and weather-related delays that reduced tanker availability.

Crude and Refined Products Trade

Preliminary data shows US crude imports rose 3% m-o-m in January to average 6.5 mb/d, the highest since June 2021. US crude exports fell to the lowest since December 2018, averaging 2.4 mb/d in January. US product imports and exports fell to the lowest since May 2020, the month hit hardest by the pandemic. Meanwhile, the latest data for China shows the country's crude imports continued to recover from lows seen in October to reach a nine-month high of 10.9 mb/d in December. China's product exports contracted 24%, m-o-m, in December to the lowest since January 2017, amid government directives to limit the outflow of clean products. India's crude imports averaged 4.6 mb/d in December, the highest for the year, as refiners looked toward higher runs in 1Q22. India's product exports reached levels last seen in April 2020, with increases across all major products, except jet fuel, which remained at the still-high level seen in the previous month. Japan's crude imports have seen a 26% increase over the last two months to average 3.0 mb/d, the highest since December 2019, amid higher refinery runs to meet winter demand and increased use of crude for direct burning.

Commercial Stock Movements

Preliminary December data shows total OECD commercial oil stocks down by 31.2 mb m-o-m. At 2,725 mb, inventories were 311 mb lower than the same time a year earlier, 210 mb lower than the latest five-year average, and 202 mb below the 2015-2019 average. Within components, crude and products stocks fell m-o-m by 18.3 mb and 12.9 mb, respectively. At 1,330 mb, crude stocks in the OECD were 99 mb less than the latest five-year average and 100 mb below the 2015-2019 average. OECD product stocks stood at 1,395 mb, representing a deficit of 111 mb compared with the latest five-year average and 102 mb below the 2015-2019 average. In days of forward cover, OECD commercial stocks in December rose by 0.1 day m-o-m to stand at 61.1 days. This is 10.6 days below December 2020 levels, 2.9 days less than the latest five-year average and 1.3 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 last month's assessment to stand at 27.9 mb/d, around 5.0 mb/d higher than in 2020. Demand for OPEC crude in 2022 was also revised up by 0.1 mb/d from the last month's report at 28.9 mb/d, around 1.0 mb/d higher than in 2021.

Feature Article

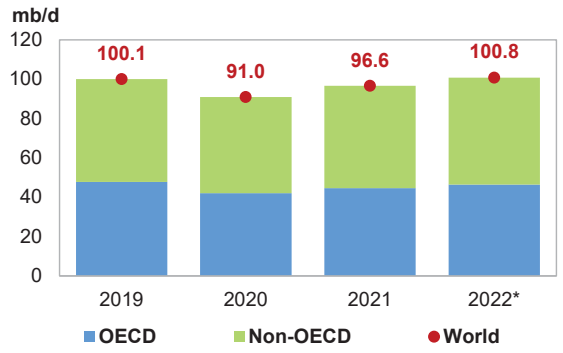
Review of global oil demand trend

Global oil demand in 2021 saw a strong recovery, increasing by 5.7 mb/d, supported by a solid economic rebound. Oil demand growth was led by the non-OECD region, which saw an increase of 3.1 mb/d y-o-y, with China and India contributing the bulk of additional oil requirements. Oil demand in the OECD region also rebounded by a strong 2.6 mb/d y-o-y.

In the **OECD**, the Americas saw the largest growth among the sub-regions in 2021, growing by 1.7 mb/d, with gasoline leading in terms of product categories, and LPG even surpassing pre-pandemic levels. In OECD Europe, oil demand growth of 0.6 mb/d, y-o-y, was led by diesel for manufacturing and road transportation. OECD Asia Pacific grew by 0.4 mb/d, y-o-y, and saw strong demand from manufacturing and petrochemicals.

In the **non-OECD**, China and India saw a strong economic recovery, supporting demand for industrial/petrochemical feedstock, including naphtha and LPG. Moreover, rebounding mobility in both countries supported healthy demand for gasoline and diesel, mainly in transportation. China's oil demand grew by 1.0 mb/d y-o-y, while India saw an increase of 0.3 mb/d, y-o-y.

Graph 1: Global oil demand by region, 2021-2022

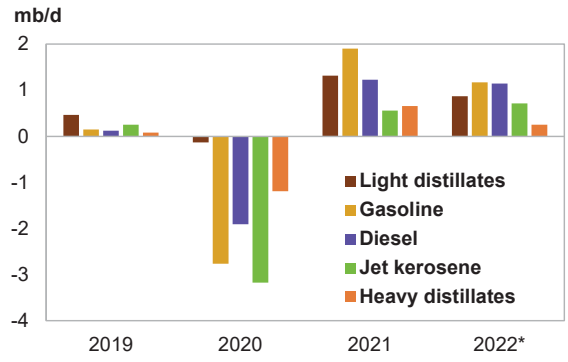


*Note: * 2022 = Forecast. Source: OPEC.*

Looking ahead, **global oil demand growth in 2022** is forecast at 4.2 mb/d to average 100.8 mb/d, surpassing the level seen in 2019 ***(Graph 1)***.

The **OECD** region is forecast to grow by 1.8 mb/d, although not yet reaching pre-pandemic levels in absolute volumes. OECD Americas is forecast to grow by 1.1 mb/d, driven by a continued improvement in mobility, as well as accelerated manufacturing activity and demand for petrochemical feedstock, driving consumption of gasoline, diesel oil and LPG. In OECD Europe, an expected pick-up in regional, local and international air traffic is projected to support the jet/kerosene demand in the region, while solid manufacturing activities, particularly from Germany and other big economies in the region, are expected to drive the demand for diesel ***(Graph 2)***. Overall, growth in the region is forecast at 0.6 mb/d. In OECD Asia Pacific, Japan announced subsidies for gasoline, which along with a healthy petrochemical sector are anticipated to support oil demand. The region is projected to grow by 0.2 mb/d in 2022.

Graph 2: Global oil demand growth by product, y-o-y



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

The **non-OECD** region is forecast to grow by 2.3 mb/d in 2022, surpassing the pre-pandemic level of 2019 by around 2 mb/d for total demand. Within the region, China, India and Other Asia are the main drivers, making up more than two-thirds of the growth volumes. In China, the ongoing return of mobility is forecast to back gasoline demand, which is projected to grow by around 0.2 mb/d y-o-y, with diesel and jet/kerosene adding support. India is similarly expected to see added mobility resulting in forecast y-o-y growth of roughly 0.2 mb/d for gasoline and 0.1 mb/d for jet/kerosene, with upwardly revised economic growth for the country supporting diesel growth of around 0.1 mb/d. Outside Asia, resumption of international travel is likely to be a key driver of oil demand in the Middle East, with expected total demand growth forecast at 0.3 mb/d. Latin America oil demand is driven mainly by diesel and gasoline with overall oil demand forecast to grow by 0.2 mb/d y-o-y.

The main challenges for 2022 remain the containment of the COVID-19 pandemic and any resulting restrictive measures, supply chain disruptions, inflation, and labour shortages that could dampen economic growth. Nevertheless, upside potential to the forecast prevails, based on an ongoing observed strong economic recovery with the GDP already reaching pre-pandemic levels, supported by fiscal stimulus, and global trade levels reaching an all-time high in volume terms. Moreover, mobility is expected to gain further momentum, particularly with regard to the travel and tourism sector. Given the experience of the past two volatile years, vigilant monitoring of pandemic developments, along with a highly flexible approach, will remain key to successfully maintaining oil market stability.

World Oil Demand

In 2021, world oil demand substantially outpaced 2020's historically low levels with an increase of 5.7 mb/d, yet it remained below pre-pandemic levels. In terms of the main regions, growth in the non-OECD was at 3.1 mb/d, higher than additional requirements in the OECD, which were at 2.6 mb/d. Following declines in 1Q21, world oil demand grew at historic levels y-o-y during 2Q21 on top of a record low baseline during 2020. World oil demand during 3Q21 and 4Q21 proved to be substantially more resilient than previously anticipated and was strongly supported by increasing mobility and various government stimulus programs across the world. In the OECD, the US continued to be the major driver of oil demand by recording strong growth of 1.6 mb/d y-o-y, mostly supported by demand for personal mobility, manufacturing feedstock, notably for the petrochemical industry, as well as other service sector-related activities, such as air travel and supply chain processes. In the OECD, the strong industrial sector induced economic growth, while vaccination programs and other COVID-19 management measures led to the relaxation of stringent COVID-19 containment measures. These factors backed demand for both transportation and industrial fuels in the OECD region, particularly in major consuming countries. In the non-OECD, China's oil demand grew resiliently as the transportation and industrial sectors fuelled additional requirements backed by strong economic growth. In India, solid economic growth backed by increasing mobility supported gasoline demand.

In 2022, oil demand growth is expected at 4.2 mb/d unchanged from the previous month. In most European countries, lockdowns and other restrictions are easing. Similarly, in the US, the COVID-19 pandemic has been well contained through vaccinations and other containment measures. As most world economies are expected to grow stronger, the near-term prospects for world oil demand are certainly on the bright side. The main contributors in 2022 world oil demand are gasoline and diesel, which are anticipated to account for around half of the forecasted world oil demand growth. Similarly, as global airline travel continues to be rejuvenated, particularly in the US, Europe, China and the Middle East, demand for jet kerosene will grow further and continue to recover. Petrochemical demand in Asia Pacific, notably in Japan and South Korea, will boost demand for light distillates, notably naphtha. Finally, LPG demand will also rise in 2022 as the household and industrial sectors continue to pick up, particularly in non-OECD Asia, India and China.

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

							Change 2021/20	
World oil demand	**2020**	**1Q21**	**2Q21**	**3Q21**	**4Q21**	**2021**	**Growth**	**%**
Americas	22.44	22.73	24.33	24.74	24.89	24.19	1.74	7.76
of which US	*18.35*	*18.65*	*20.21*	*20.39*	*20.56*	*19.96*	*1.61*	*8.79*
Europe	12.43	11.91	12.63	13.84	13.64	13.02	0.58	4.69
Asia Pacific	7.14	7.67	7.04	7.11	7.72	7.39	0.25	3.47
Total OECD	**42.02**	**42.31**	**44.00**	**45.70**	**46.26**	**44.59**	**2.57**	**6.12**
China	13.52	13.79	14.55	14.52	15.21	14.52	1.00	7.39
India	4.51	4.94	4.50	4.59	5.12	4.79	0.28	6.18
Other Asia	8.13	8.56	8.98	8.34	8.62	8.63	0.50	6.10
Latin America	6.01	6.25	6.16	6.46	6.35	6.30	0.29	4.88
Middle East	7.55	7.95	7.77	8.24	7.99	7.99	0.44	5.90
Africa	4.08	4.37	4.08	4.15	4.40	4.25	0.17	4.10
Russia	3.39	3.65	3.42	3.63	3.76	3.61	0.23	6.70
Other Eurasia	1.07	1.23	1.24	1.09	1.28	1.21	0.14	12.70
Other Europe	0.70	0.78	0.72	0.73	0.79	0.75	0.06	8.29
Total Non-OECD	**48.96**	**51.52**	**51.43**	**51.74**	**53.52**	**52.06**	**3.10**	**6.33**
Total World	**90.97**	**93.83**	**95.43**	**97.44**	**99.77**	**96.65**	**5.67**	**6.23**
Previous Estimate	90.98	93.83	95.43	97.41	99.75	96.63	5.66	6.22
Revision	0.00	0.00	0.00	0.03	0.02	0.01	0.02	0.02

*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	24.19	24.04	25.42	25.77	25.70	25.24	1.06	4.37
of which US	*19.96*	*19.69*	*21.07*	*21.36*	*21.28*	*20.86*	*0.90*	*4.50*
Europe	13.02	12.63	13.22	14.49	14.16	13.63	0.61	4.72
Asia Pacific	7.39	7.91	7.22	7.25	7.83	7.55	0.17	2.26
Total OECD	**44.59**	**44.58**	**45.86**	**47.50**	**47.69**	**46.43**	**1.84**	**4.12**
China	14.52	14.64	15.44	15.00	15.65	15.18	0.66	4.57
India	4.79	5.48	4.82	4.97	5.44	5.18	0.39	8.16
Other Asia	8.63	9.25	9.59	8.93	8.95	9.18	0.55	6.38
Latin America	6.30	6.49	6.33	6.61	6.51	6.48	0.18	2.85
Middle East	7.99	8.30	8.01	8.49	8.22	8.26	0.27	3.34
Africa	4.25	4.54	4.21	4.27	4.53	4.39	0.14	3.23
Russia	3.61	3.75	3.47	3.68	3.81	3.68	0.07	1.81
Other Eurasia	1.21	1.30	1.29	1.12	1.32	1.26	0.05	3.72
Other Europe	0.75	0.80	0.73	0.74	0.81	0.77	0.02	2.18
Total Non-OECD	**52.06**	**54.55**	**53.90**	**53.82**	**55.23**	**54.37**	**2.32**	**4.45**
Total World	**96.65**	**99.13**	**99.75**	**101.32**	**102.92**	**100.80**	**4.15**	**4.30**
Previous Estimate	96.63	99.13	99.75	101.28	102.90	100.79	4.15	4.30
Revision	0.01	0.00	0.00	0.03	0.02	0.01	0.00	0.00

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

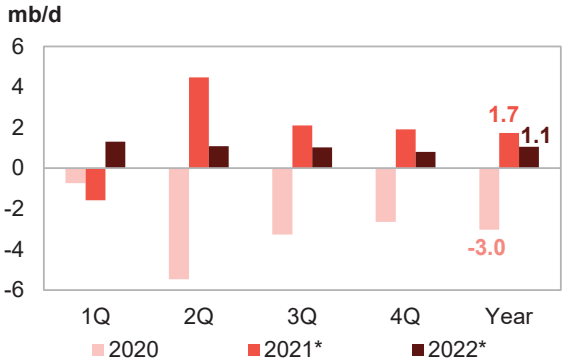
OECD

OECD Americas

Update on the latest developments

Oil demand in OECD Americas continued to gain momentum amid the spread of the Omicron variant and lower economic growth in November. In OECD Americas, **US** latest monthly **November** data implied strong growth of 1.9 mb/d y-o-y, with levels slightly below pre-COVID-19 levels. November's firm oil demand growth in the US is mostly supported by rising demand for personal mobility, manufacturing feedstock for the petrochemical industry as well as other service sector-related activities, such as air travel and supply chain activities. Gasoline is the main driver of November's US oil demand growth, driven by increases in travel-related activities. Despite rising Omicron cases, stimulus programs from the US government supported mobility, which is still holding up, and consumers seem to be coming out of the pandemic in good shape.

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



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

The Federal Highway Administration reported that motorists in the US drove around 279 billion vehicle miles in November, up 28 billion vehicle miles from November 2020. These factors supported increases in demand for gasoline of 1.0 mb/d y-o-y, with demand almost reaching pre-COVID-19 levels. LPG demand declined in November y-o-y, while naphtha demand remained flat, y-o-y. Colder weather conditions in November as compared to historical norms and the same month in 2020 resulted in increasing heating needs, which supported diesel demand, growing by 0.3 mb/d, y-o-y. Diesel demand growth during November reflected also strong manufacturing activities. The manufacturing activity index in the US grew by 5% in November, marking the largest monthly increase since January 2019. Among transportation fuels, jet kerosene remains the most affected by the COVID-19 pandemic. However, its demand shows signs of resilience, growing by 0.4 mb/d y-o-y. Seasonality affects traditional travel patterns in the US during winter less than in summer. Lifting bans on international flights has boosted jet kerosene demand. The International Air Transport Association (IATA) reports that domestic air traffic in November improved as compared to October, partly due to a strong Thanksgiving holiday related traffic.

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

By product	Nov 20	Nov 21	Change Growth	Nov 21/Nov 20 %
LPG	3.43	3.38	-0.05	-1.5
Naphtha	0.18	0.19	0.01	2.7
Gasoline	8.00	8.99	0.99	12.3
Jet/kerosene	1.13	1.50	0.37	32.7
Diesel	3.88	4.17	0.30	7.6
Fuel oil	0.21	0.43	0.22	107.7
Other products	2.20	2.22	0.02	0.9
Total	**19.03**	**20.89**	**1.85**	**9.7**

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

Near-term expectations

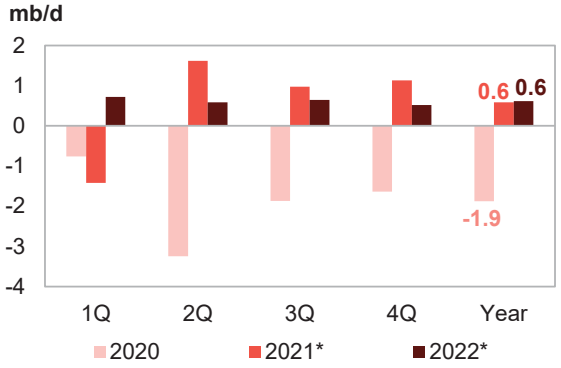
Current trends in OECD Americas oil demand backed by many indicators, imply that the near-term oil demand prospects are on the optimistic side. Widespread vaccinations and the mild effects of the Omicron variant in terms of hospitalizations and loss of life have left oil demand largely unscathed. Furthermore, economic stimulus programs in the US and the expected economic growth recovery have supported improvements in manufacturing output and air traffic. Lastly, the supply chain bottlenecks are also expected to ease soon. These factors are expected to support OECD Americas oil demand, which is projected to appreciably increase in 2022. Gasoline demand will remain healthy, as mobility activities are expected to continue improving. Furthermore, the manufacturing and petrochemical sectors in the US and the region are expected to also push the demand for LPG and diesel higher. Finally the likely continuing removal of travelling restrictions will further contribute towards improving demand for jet kerosene. Some risks to the downside pertain also and relate to the appearance of new COVID-19 variants, the growth in economy, as well as fuel substitution.

OECD Europe

Update on the latest developments

Latest available **November** data imply robust **oil demand in OECD Europe**, particularly supported by transportation and industrial fuels, and despite the Omicron outspread. Oil demand grew in November by 1.8 mb/d, y-o-y, after collapsing by approximately the same volumes in the same month of 2020 and reached almost pre-COVID-19 levels. Diesel, and its utilization in the transportation and industrial sectors, is the main driver of oil demand, constituting about half of total oil demand growth, also stemming from a low historical baseline. Higher natural gas prices encouraged fuel switching and supported diesel demand in the industrial sector. Most of the diesel demand comes from the European Big 4 oil consumers − Germany, Italy, France and the UK − as a result of increasing manufacturing. Light distillates demand grew also y-o-y, in line with healthy industrial activities in the region.

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



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

Europe is the region leading the global seasonal mobility recovery, as optimism builds over demand growth. Indicators have shown that the driving season proved to be very impressive in Europe as most countries have removed restrictions and travel has increased. Consequently, gasoline demand grew by 0.5 mb/d in November y-o-y. Jet kerosene requirements also recorded an appreciable rise of 0.3 mb/d, supported by a recovery in air travel, with increasing domestic, regional and international flights. The IATA suggest that in November 2021, international traffic in Europe recorded significant improvements over the previous month.

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

By product	Nov 20	Nov 21	Change Growth	Nov 21/Nov 20 %
LPG	0.39	0.39	0.01	1.5
Naphtha	0.57	0.62	0.06	9.9
Gasoline	0.92	1.14	0.22	23.7
Jet/kerosene	0.39	0.50	0.11	28.8
Diesel	2.92	3.29	0.37	12.6
Fuel oil	0.15	0.15	0.00	2.7
Other products	0.49	0.48	-0.01	-1.0
Total	**5.82**	**6.58**	**0.76**	**13.0**

*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

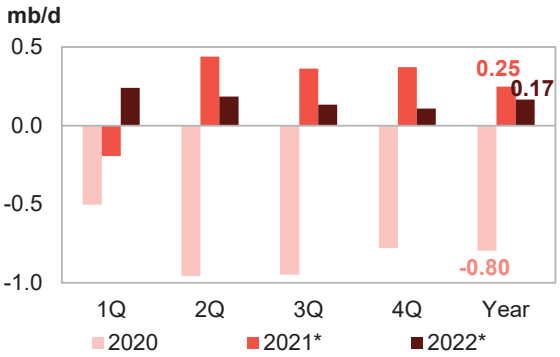
The Omicron variant seems to be less severe than previous variants, leading to easing measures across the region. A considerable number of countries have already removed or have announced that they will remove COVID-19 measures. In addition, widespread lockdowns in the region will very unlikely reappear in the foreseeable future. Optimism arises also from a forecasted strong economic growth in 2022. Additionally, supportive effects of sound fiscal and monetary policies in the region's economy will more than offset whatever negative effects Omicron may have on oil demand. Consequently, indications imply positive oil demand developments in the region for 2022. Transportation fuels will be the main driver of growth, while jet kerosene demand is expected to further recover in 2022, supported by improving travel activities. The industrial sector is expected to support diesel demand, which is projected to further increase in 2022. Downside risks for 2022 OECD Europe oil demand pertain to new COVID-19 variants, as well as to economic challenges in regard to high national debt levels, as well as fuel substitution.

OECD Asia Pacific

Update on the latest developments

OECD Asia-Pacific oil demand in **November** rose by almost 0.3 mb/d y-o-y, after posting an increase of 0.5 mb/d in October, mainly supported by strong naphtha demand, which grew for the ninth consecutive month. Asia Pacific oil demand remained lower than November 2019 due to lower transportation fuel levels, and jet kerosene in particular. The demand growth in November originated mostly in Japan and South Korean, in line with increasing economies and healthy industrial and manufacturing activities.

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



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

The strength in naphtha came on the back of its demand as feedstock for steam cracker operators in light of high LPG prices and continued healthy petrochemical margins. Naphtha stood above pre-pandemic levels by nearly 0.2 mb/d compared to October 2019. At the same time, LPG demand decreased y-o-y in October due to the preference to consume naphtha in the petrochemical sector. Manufacturing activity is the main driver of GDP growth in the two countries. Data from Haver Analytics shows that the index of manufacturing output in Japan and South Korea increased in November, m-o-m. These factors helped boost exports of manufactured goods, which also drove private consumption and construction investment higher.

Gains in naphtha demand during November have been partly offset by declining requirements in the demand for almost all other petroleum product categories – residual fuel being the exception. Transportation fuels demand, notably gasoline diesel and jet kerosene declined as a result of localized COVID-19 containment measures, while residual fuel requirements grew in line with additional needs in the industrial sector. Oil demand grew also in Australia, y-o-y as a result of increasing mobility and following a long lockdown during the colder weather season. Latest preliminary December 2021 demand data, as released by Japan's Ministry

of Economy, Trade and Industry (METI) indicate an increase of 0.1 mb/d y-o-y, mainly driven by rising light distillates and residual fuel oil demand.

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

By product	Dec 20	Dec 21	Change Growth	Dec 21/Dec 20 %
LPG	0.49	0.52	0.03	6.3
Naphtha	0.72	0.80	0.08	11.7
Gasoline	0.83	0.80	-0.02	-2.7
Jet/kerosene	0.66	0.58	-0.07	-11.4
Diesel	0.80	0.81	0.01	1.6
Fuel oil	0.23	0.27	0.04	17.8
Other products	0.21	0.24	0.03	13.8
Total	**3.93**	**4.04**	**0.10**	**2.6**

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

Near-term expectations

OECD Asia Pacific economies, notably Japan and South Korea are expected to grow in 2022. With accelerated vaccination rates, easing supply chain bottlenecks and sound monetary and investment policies, oil demand in the region is also expected to record gains. Japan started implementing subsidies from 29 January on selected petroleum products prices, while in South Korea, investment-friendly fiscal and monetary policies in this year are anticipated to boost manufacturing and construction activities. Consequently, naphtha, gasoline and diesel are expected to mostly contribute to rising 2022 oil requirements. Similarly, jet kerosene demand will take advantage of expected increases in international air travel, particularly to the US where an embargo on international flight travel has been lifted. New unforeseen COVID-19 variants, as well as fuel substation are the main factors pointing to downside risks.

Non-OECD

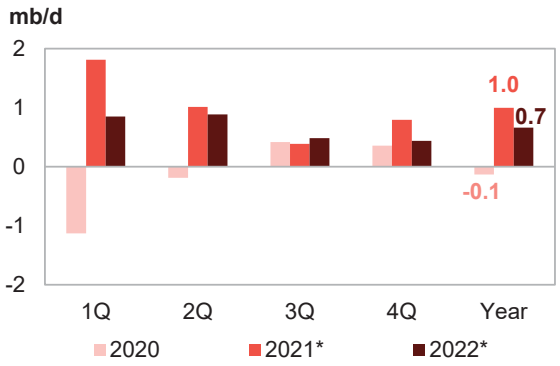
China

Update on the latest developments

Chinese oil demand regained its momentum in **December** after a slight slowdown in oil demand growth during November and as a result of localized COVID-19 containment measures in some parts of the country. Robust economic growth of 4% amid stronger-than-expected industrial production in December are the two major drivers for oil demand in China during this month, while pertaining stricter travel restrictions weakened air travel. Available December data imply that China oil demand grew by 1.1 mb/d y-o-y, with demand exceeding pre-COVID-19 levels.

December 2021 oil demand growth was largely driven by gasoline and diesel. Gasoline demand grew by 0.3 mb/d, while diesel requirements were higher by 0.2 mb/d y-o-y. Similarly, a strong recovery in industrial and petrochemical activities supported the December demand for naphtha and LPG, with demand for the two fuels growing by 0.4 mb/d in total, y-o-y. Jet kerosene demand performed sluggishly in December and declined by 0.1 mb/d y-o-y. Jet kerosene demand was drawn down by declines in air traffic in China as the number of daily passenger flights remain far below the normal pre-pandemic levels. Demand for residual fuel oil also increased in December, y-o-y.

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



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

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

By product	Dec 20	Dec 21	Change Growth	Dec 21/Dec 20 %
LPG	2.21	2.39	0.18	8.1
Naphtha	1.92	2.15	0.23	12.2
Gasoline	2.92	3.20	0.28	9.5
Jet/kerosene	0.93	0.82	-0.11	-12.3
Diesel	3.01	3.20	0.19	6.2
Fuel oil	0.29	0.39	0.10	36.4
Other products	2.08	2.30	0.22	10.5
Total	**13.36**	**14.45**	**1.09**	**8.1**

*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

China oil demand is also expected to grow robustly in 2022 in line with projected economic growth and with risks being balanced towards the upside and downside. The anticipated economic growth, flourishing industrial, as well as transportation and residential sectors are the main factors pointing to the upside. On the other hand, zero COVID-19 policies, associated restrictions and travel bans may cap demand in the near future in combination with fuel substitution notably in the transportation sector. Early indications in January this year imply that domestic gasoline demand remains pressured by the resurgence of COVID-19 across six provinces and the detection of the Omicron variant in parts of China. The latter posed some concerns over the travel demand for the upcoming Lunar New Year holiday (31 January-6 February) and the Winter Olympics (4-20 February in Beijing).

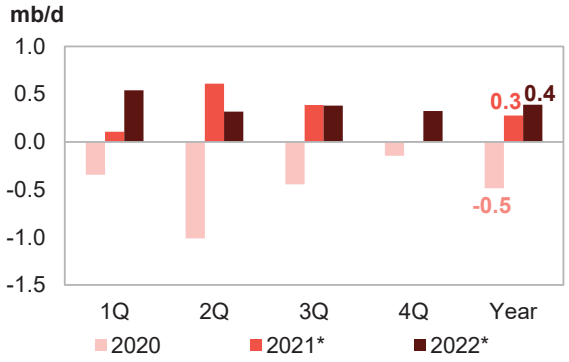
India

Update on the latest developments

Latest available **December Indian data** show marginal oil demand growth of 20 tb/d y-o-y. Extreme weather conditions during November, with some spill over effects in December, and COVID-19 containment measures in parts of the country dampened oil demand. Light distillate demand declined and almost partially offset gains in demand for jet kerosene, gasoline and diesel. The latter petroleum product category accounts for the larger share of India's oil demand, and was supported by healthy industrial and construction activities, as well as improving mobility. Gasoline demand grew in December y-o-y in line with the holiday season and rising private mobility. LPG demand fell in December y-o-y, on top of high demand during the same month in 2020. Jet kerosene requirements in December increased, y-o-y, owing to the resumption of international flights into India and the low historical baseline.

The recovery of petroleum products in India continued its upward trend. Diesel demand in December almost reached pre-pandemic levels, while gasoline requirements surpassed pre-COVID-19 levels already in 2020 for the first time and continued to rise. The demand for gasoline has consistently been above pre-COVID-19 levels in 2021. LPG also exceeded pre-pandemic levels due to its heavy utilization in the residential and transportation sectors, while jet kerosene demand remains to-date well below pre-COVID-19 levels.

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



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

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

By product	Dec 20	Dec 21	Change Growth	Dec 21/Dec 20 %
LPG	0.98	0.97	-0.02	-1.8
Naphtha	0.29	0.28	-0.01	-2.4
Gasoline	0.84	0.87	0.03	3.6
Jet/kerosene	0.15	0.17	0.03	17.6
Diesel	1.83	1.85	0.03	1.5
Fuel oil	0.23	0.24	0.00	1.2
Other products	0.83	0.78	-0.04	-5.3
Total	**5.15**	**5.17**	**0.02**	**0.3**

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

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

Near-term expectations

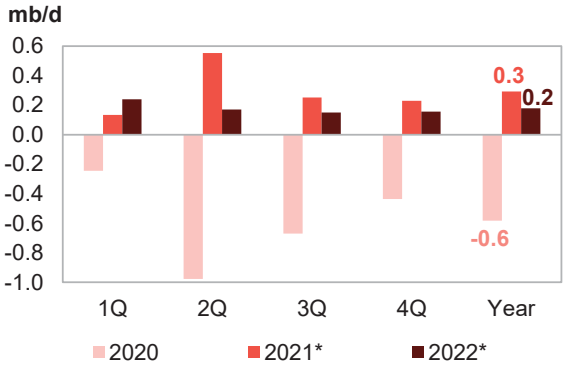
During 2022, the forecasted economic growth remains strong, with most of the growth expected to be driven by the manufacturing sector. Naturally, economic growth will also positively impact other sectors, such as the transportation and residential sectors. Accordingly, 2022 oil demand is projected to increase robustly, y-o-y. Rising oil demand will be supported by increasing requirements in all main petroleum product categories. Gasoline demand will rise, in line with stronger private and commercial mobility. Continuing resilience of the vibrant Indian manufacturing sectors will support demand for diesel in 2022. Similarly, evidence from the gradual resumption of domestic and international flights indicate that demand for jet kerosene will gradually recover. Finally, LPG utilization will support slight gains in 2022 demand. Some downside risks pertain and relate to rising COVID-19 cases, new variants and their associated containment measures, as well as fuel substitution.

Latin America

Update on the latest developments

November oil demand in Latin America rose by 0.1 mb/d y-o-y, slightly lower than previous months. Oil demand in Brazil declined slightly for November and December, y-o-y. In both months, gains in gasoline, diesel, jet kerosene and naphtha demand have been more than offset by declines in ethanol and LPG requirements. Oil demand in Argentina grew robustly during November, y-o-y, particularly supported by firm gasoline and diesel requirements. In general, oil demand in the region remains on a positive trajectory, supported by good performance of transportation and industrial fuels. Demand for the majority of petroleum product categories exceeded pre-pandemic levels - except jet kerosene, which still lags.

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



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

Near-term expectations

In line with of a forecasted GDP growth, oil demand in Latin America is projected to remain on a growing trajectory during 2022. Oil demand will be positively impacted by rising mobility, industrial and manufacturing activities, and hence gasoline, diesel and, to some extent, jet kerosene will dominate additional oil requirements. There are, however, also some downside risks associated with the region's oil demand in 2022. The COVID-19 pandemic developments may negatively influence mobility, industrial activities, the general economy and consequently oil demand. The projected oil demand growth for 2022 remains, however, positive, yet below the 2021 growth levels, which came after the historic decline during 2020.

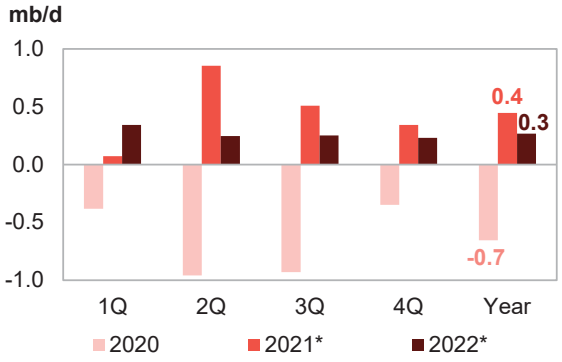
Middle East

Update on the latest developments

In the **Middle East**, the latest available **November** 2021 data implies a y-o-y increase of 0.3 mb/d, higher than the growth seen in October, and with demand levels slightly exceeding those during the pre-pandemic period. November 2021 oil demand grew across most countries of the region and was dominated by robust gasoline, diesel and to a lesser extent jet kerosene requirements.

Strong economic recoveries saw some countries' non-oil GDP even exceed pre-pandemic levels; these developments supported the domestic effective demand and spending on major projects. Furthermore, the continuous recovery of mobility and industrial activities supported demand for gasoline and diesel in the region.

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



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

Demand for jet kerosene continues to recover in the region, lagging however behind the performance of other fuels, and partly supported by the resumption of international flights in the region.

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

By product	Dec 20	Dec 21	Change Growth	Dec 21/Dec 20 %
LPG	0.05	0.05	0.00	-4.5
Gasoline	0.49	0.50	0.02	3.1
Jet/kerosene	0.04	0.06	0.01	31.5
Diesel	0.47	0.51	0.03	7.3
Fuel oil	0.60	0.53	-0.08	-13.0
Other products	0.35	0.40	0.06	16.0
Total	**2.01**	**2.05**	**0.04**	**1.9**

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

Near-term expectations

The near-term expectations for Middle East oil demand are optimistic. The management of the COVID-19 pandemic seems to be successful, eliminating to-date the majority of containment measures and favouring mobility and oil demand growth. The expected local and international travel demand are likely to boost gasoline and jet kerosene requirements during 2022. Similarly, construction activities on large projects in the region are expected to support diesel and residual fuel oil demand in the current year. Overall, the prospects for 2022 oil demand in the region are bright, with only some minor risks related to the COVID-19 pandemic and the economies of some countries in the region.

World Oil Supply

Non-OPEC liquids supply growth in 2021 (including processing gains of 0.13 mb/d) is revised down by 0.06 mb/d to around 0.6 mb/d y-o-y, and average 63.6 mb/d for the year. The upward revisions, mainly to the US, were offset by downward revisions in the supply forecasts of other countries such as Brazil, Canada, China, Ecuador and UK, due to unexpected lower output in 4Q21. The US liquids supply forecast was revised upwards to show growth of 0.15 mb/d y-o-y, following an upward revision to production estimates in 4Q21, due to a continued production recovery in the Gulf of Mexico (GoM) and steady monthly growth in the main shale plays, particularly in the Permian and Bakken. On the other hand, Brazilian ethanol and biofuel production was revised down in all quarters. Lower-than-expected production in China and production outages in Canada also lowered the 4Q21 estimate. The 2021 oil supply forecast primarily sees growth in Canada, Russia, China, the US, Guyana, Norway, Qatar and Argentina, while output is projected to decline in the UK, Brazil, Colombia and Indonesia.

Non-OPEC supply growth for 2022 remained broadly unchanged at 3.02 mb/d y-o-y, and is forecast to average 66.6 mb/d. Upward revisions to the supply forecast were mainly in OECD Europe. The main drivers of liquids supply growth are expected to be the US (1.03 mb/d) and Russia (0.98 mb/d), followed by Brazil, Canada, Norway, Kazakhstan and Guyana.

OPEC NGLs and non-conventional liquids production in 2021 is unchanged from the previous assessment to show growth of 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 in 2022 for an average of 5.3 mb/d. OPEC-13 crude oil production in January increased by 0.06 mb/d m-o-m to average 27.98 mb/d, according to available secondary sources.

Preliminary non-OPEC liquids production in January, including OPEC NGLs, is estimated to have grown by 0.65 mb/d m-o-m to average 70.71 mb/d, up by 2.3 mb/d y-o-y. As a result, preliminary data indicates that global oil supply in January grew by 0.71 mb/d m-o-m to average 98.69 mb/d, up by 4.75 mb/d y-o-y.

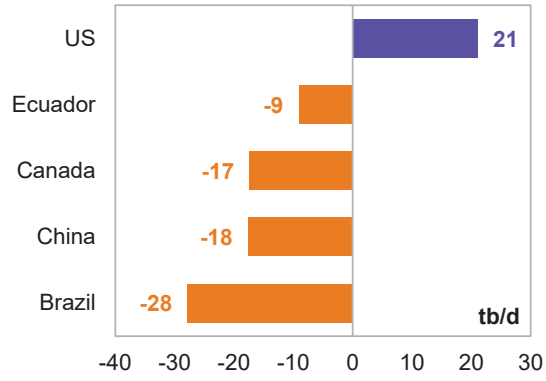
Non-OPEC liquids production growth in 2021 was revised down by 63 tb/d from the previous month's assessment to average 0.61 mb/d.

In the OECD, a minor downward revision of 38 tb/d in 4Q21 was partially offset by an upward revision of 11 tb/d in 3Q21, which led to a minor downward revision of 7 tb/d for the year in the region.

Canada and the UK saw the main downward revisions with 17 tb/d and 6 tb/d, respectively, while the US was revised up by 21 tb/d for the year.

The non-OECD supply forecast for 2021 was revised down by 56 tb/d, mainly due to downward revisions in Brazil, China and Ecuador by 28 tb/d, 18 tb/d and 9 tb/d, respectively.

Graph 5 - 1: Major revisions to annual supply change forecast in 2021*, MOMR Feb 22/Jan 22



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

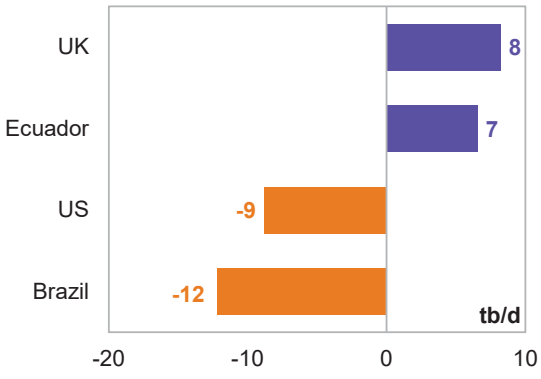
The **non-OPEC supply growth forecast for 2022** remained unchanged from the previous month's assessment to average 3.02 mb/d.

The main upward revision was seen in OECD Europe, of which the UK saw the largest adjustment.

This month's upward revisions were slightly more than offset by downward adjustments, mainly in Brazil.

With these revisions, the non-OPEC absolute liquids supply forecast for 2022 was revised down by 58 tb/d to average 66.61 mb/d, while in terms of growth, it remained unchanged at 3.02 mb/d.

Graph 5 - 2: Major revisions to annual supply change forecast in 2022*, MOMR Feb 22/Jan 22

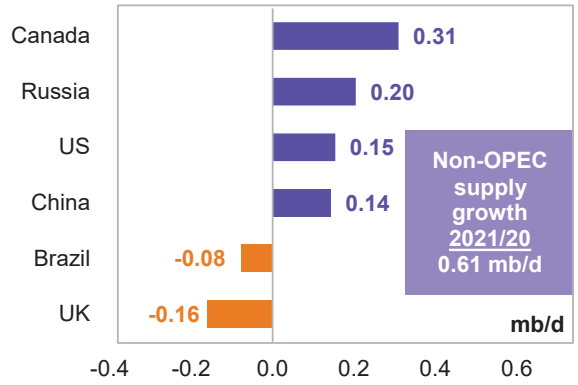


*Note: * 2022 = Forecast. Source: OPEC.*

Key drivers of growth and decline

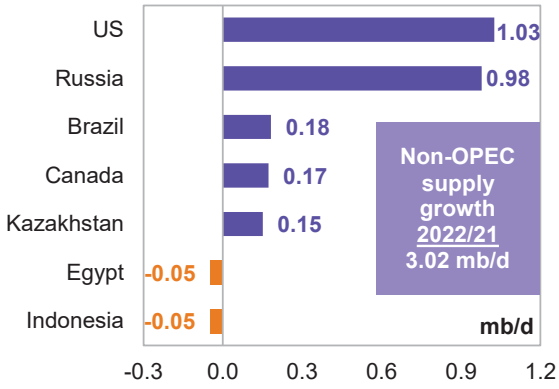
The **key drivers of non-OPEC liquids supply growth in 2021** are estimated to have been Canada, Russia, the US, China, Guyana and Norway, while output is estimated to have declined in the UK, Brazil and Colombia.

Graph 5 - 3: Annual liquids production changes for selected countries in 2021*



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

Graph 5 - 4: 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, Brazil, Canada, Kazakhstan, Norway and Guyana, while oil production is projected to decline, mainly in Indonesia and Egypt.

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	26.21	25.17	0.48	1.93
of which US	*17.61*	*16.63*	*17.93*	*17.85*	*18.61*	*17.76*	*0.15*	*0.87*
Europe	3.90	3.96	3.52	3.81	3.81	3.77	-0.12	-3.19
Asia Pacific	0.52	0.50	0.45	0.53	0.53	0.50	-0.02	-3.27
Total OECD	**29.12**	**28.56**	**29.13**	**29.54**	**30.55**	**29.45**	**0.33**	**1.15**
China	4.16	4.30	4.34	4.33	4.25	4.30	0.14	3.44
India	0.77	0.76	0.75	0.75	0.74	0.75	-0.01	-1.78
Other Asia	2.51	2.52	2.46	2.33	2.36	2.42	-0.09	-3.55
Latin America	6.04	5.94	5.97	6.09	5.82	5.96	-0.08	-1.37
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	-5.21
Russia	10.59	10.47	10.74	10.81	11.16	10.80	0.20	1.93
Other Eurasia	2.91	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**	**31.65**	**31.85**	**31.77**	**32.13**	**31.85**	**0.15**	**0.46**
Total Non-OPEC production	60.82	60.21	60.98	61.32	62.68	61.30	0.48	0.79
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**	**62.49**	**63.26**	**63.60**	**64.96**	**63.58**	**0.61**	**0.97**
Previous estimate	62.97	62.51	63.28	63.62	65.15	63.65	0.67	1.07
Revision	0.00	-0.02	-0.02	-0.02	-0.19	-0.06	-0.06	-0.10

*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	25.17	26.14	26.11	26.48	26.86	26.40	1.23	4.87
of which US	*17.76*	*18.48*	*18.68*	*18.83*	*19.14*	*18.79*	*1.03*	*5.77*
Europe	3.77	3.87	3.75	3.81	4.13	3.89	0.12	3.08
Asia Pacific	0.50	0.54	0.54	0.53	0.53	0.53	0.03	5.86
Total OECD	**29.45**	**30.55**	**30.39**	**30.82**	**31.53**	**30.82**	**1.37**	**4.66**
China	4.30	4.31	4.31	4.35	4.43	4.35	0.04	1.02
India	0.75	0.73	0.75	0.78	0.80	0.77	0.01	1.59
Other Asia	2.42	2.44	2.41	2.39	2.38	2.41	-0.01	-0.39
Latin America	5.96	6.25	6.20	6.14	6.35	6.23	0.27	4.61
Middle East	3.24	3.34	3.34	3.36	3.36	3.35	0.11	3.40
Africa	1.34	1.29	1.27	1.25	1.22	1.25	-0.09	-6.38
Russia	10.80	11.49	11.83	11.88	11.88	11.77	0.98	9.05
Other Eurasia	2.93	3.10	3.13	3.17	3.22	3.15	0.22	7.61
Other Europe	0.11	0.11	0.11	0.10	0.10	0.10	-0.01	-6.90
Total Non-OECD	**31.85**	**33.05**	**33.34**	**33.42**	**33.74**	**33.39**	**1.54**	**4.83**
Total Non-OPEC production	61.30	63.60	63.73	64.24	65.27	64.21	2.91	4.75
Processing gains	2.28	2.39	2.39	2.39	2.39	2.39	0.11	4.91
Total Non-OPEC liquids production	**63.58**	**65.99**	**66.13**	**66.63**	**67.66**	**66.61**	**3.02**	**4.75**
Previous estimate	63.65	66.01	66.19	66.70	67.74	66.66	3.02	4.74
Revision	-0.06	-0.02	-0.07	-0.07	-0.08	-0.06	0.00	0.01

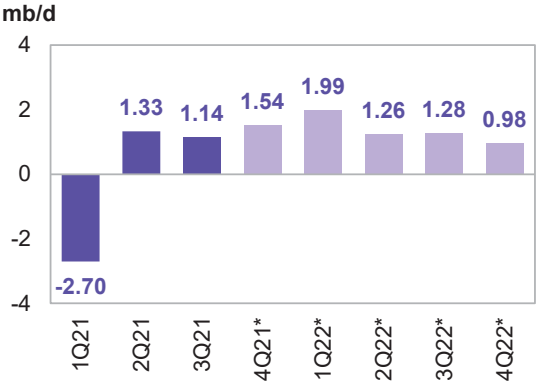
*Note: * 2021 = Estimation and 2022 = Forecast. Totals may not add up due to independent rounding. Source: OPEC.*

OECD

OECD liquids production in 2021 is forecast to increase by 0.33 mb/d y-o-y to average 29.45 mb/d, revised down by 7 tb/d m-o-m owing to a downward revision of 12 tb/d in the production forecast for OECD Europe, which is now projected to decline by 0.12 mb/d to average 3.77 mb/d. OECD Americas is forecast to grow by 0.48 mb/d, with an average supply of 25.17 mb/d. OECD Asia Pacific is forecast to decline by 0.02 mb/d y-o-y to average 0.50 mb/d.

For 2022, oil production in the OECD is forecast to increase by 1.37 mb/d y-o-y to average 30.82 mb/d, revised up by 9 tb/d compared to a month earlier, amid an upward revision to OECD Europe by 14 tb/d.

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



*Note: * 4Q21-4Q22 = Forecast. Source: OPEC.*

Based on these revisions, OECD Americas is forecast to grow by 1.23 mb/d to average 26.40 mb/d. Oil production in OECD Europe and OECD Asia Pacific is anticipated to grow by 0.12 mb/d and 0.03 mb/d y-o-y to average 3.89 mb/d and 0.53 mb/d, respectively.

OECD Americas

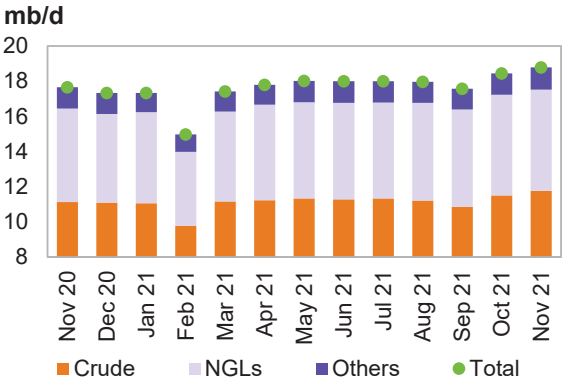
US

US liquids production rose in November 2021 by 0.34 mb/d m-o-m to average 18.78 mb/d, up by 1.13 mb/d compared with November 2020.

Crude oil and condensate production increased in November 2021 by 244 tb/d m-o-m to average 11.75 mb/d, up by 0.63 mb/d y-o-y.

Regarding the crude and condensate production breakdown by region (PADDs), production rose the most on the US Gulf Coast (USGC) by 187 tb/d to average 8.35 mb/d, and also increased slightly in the Midwest, Rocky Mountains and West Coast. Production on the East Coast declined by 2 tb/d m-o-m in November to 67 tb/d.

Graph 5 - 6: US monthly liquids output by key component



Source: OPEC.

NGL production was up by 55 tb/d m-o-m to average 5.77 mb/d in November, higher by 0.45 mb/d y-o-y. Meanwhile, production of **non-conventional liquids** (mainly ethanol) in November increased by 36 tb/d m-o-m to average 1.26 mb/d, according to the US Department of Energy (DOE). According to a preliminary estimate, non-conventional liquids are estimated to average 1.26 mb/d in December, unchanged from the previous month.

Production in the Gulf of Mexico (GoM) rose by 107 tb/d m-o-m in November to average 1.8 mb/d, showing the rebound from the impact of Hurricane Ida.

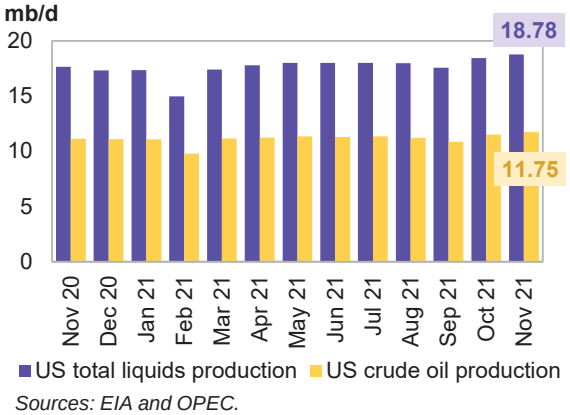
Looking at states, oil production in New Mexico rose by 45 tb/d m-o-m to average 1.4 mb/d, 357 tb/d higher than a year ago, and production in Texas increased by 34 tb/d to average 5.0 mb/d, 317 tb/d higher than a year ago. Production in North Dakota also increased by 54 tb/d m-o-m to average 1.2 mb/d, but was lower by 73 tb/d y-o-y. Production in Alaska was up marginally by 9 tb/d to average 0.4 mb/d. Oil output in Oklahoma and Colorado showed a minor decrease m-o-m by 9 tb/d and 8 tb/d, respectively. In the onshore lower 48, November production increased by 128 tb/d m-o-m to average 9.5 mb/d.

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

State	Oct 21	Nov 21	*Change* Nov 21/Oct 21
Oklahoma	404	395	*-9*
Colorado	412	404	*-8*
Alaska	437	446	*9*
North Dakota	1,100	1,154	*54*
New Mexico	1,380	1,425	*45*
Gulf of Mexico (GoM)	1,688	1,795	*107*
Texas	4,954	4,988	*34*
Total	**11,509**	**11,753**	***244***

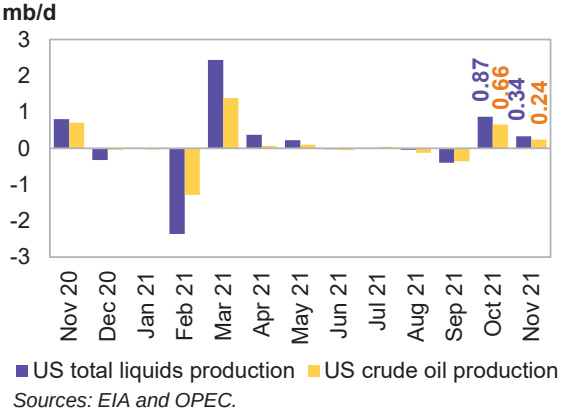
Sources: EIA and OPEC.

Graph 5 - 7: US monthly crude oil and total liquids supply



Sources: EIA and OPEC.

Graph 5 - 8: US monthly crude oil and total liquids supply, m-o-m changes



Sources: EIA and OPEC.

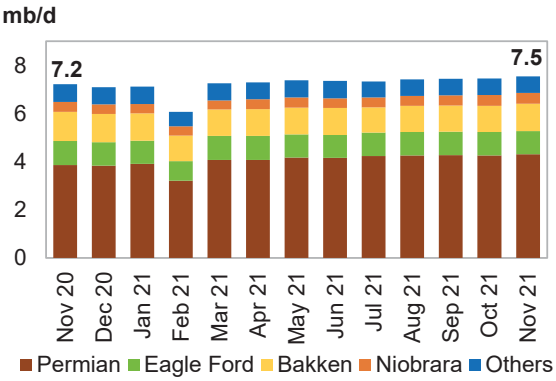
US tight crude output in November increased by 87 tb/d m-o-m to average 7.54 mb/d, which was 328 tb/d higher than the same month a year earlier, according to US Energy Information Administration (EIA) estimates.

The m-o-m increase from shale and tight formations through horizontal wells came mostly from the Permian, which increased by 48 tb/d to average 4.3 mb/d, and was up by 0.45 mb/d y-o-y.

In the Williston Basin, production in the Bakken shale rose by 49 tb/d to average 1.14 mb/d, down by 68 tb/d y-o-y. Tight crude output at Eagle Ford in Texas declined by a minor 1 tb/d to average 0.96 mb/d, while production in Niobrara-Codell in Colorado and Wyoming was down by 9 tb/d to average 0.45 mb/d.

Average tight crude output in the first eleven months of the year was estimated at 7.28 mb/d.

Graph 5 - 9: US tight crude output breakdown



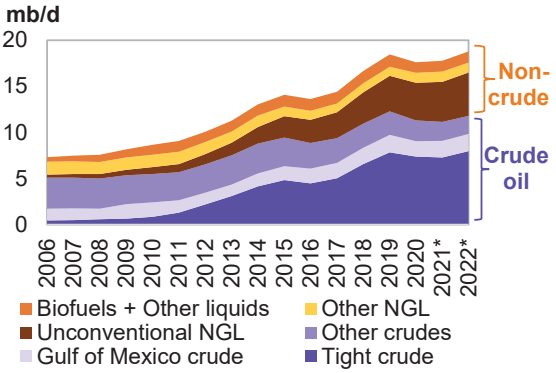
Sources: EIA, Rystad Energy and OPEC.

The **US liquids production growth forecast for 2021** was revised up by 21 tb/d and now stands to grow by 0.15 mb/d y-o-y, compared to previously projected growth of 0.13 mb/d, to average 17.76 mb/d. The upward revision was effected to 4Q21 by 78 tb/d, and 3Q21 was also revised upward by a minor 6 tb/d.

Regarding the liquids breakdown, **US crude and condensate production f**or 2021 is expected to decline by 0.14 mb/d to average 11.14 mb/d. US crude oil production is expected to exit December 2021 at 11.71 mb/d.

US tight and conventional crude oil production are forecast to see contractions of 0.11 mb/d and 0.19 mb/d in 2021, to average 7.28 mb/d and 2.06 mb/d, respectively.

Graph 5 - 10: US liquids supply developments by component



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

Growth of NGLs and non-conventional liquids is forecast at 0.28 mb/d and 0.02 mb/d to average 5.45 mb/d and 1.17 mb/d, respectively.

US liquids production in 2022, excluding processing gains, is forecast to grow by 1.03 mb/d y-o-y to average 18.79 mb/d, revised down by 0.01 mb/d. The 2022 gains are due primarily to forecast tight crude production growth of 0.67 mb/d, unconventional NGL growth of 0.36 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 by 0.1 mb/d y-o-y.

Given the current pace of drilling and well completion in oil fields, **production of crude oil** is forecast to grow by 0.67 mb/d y-o-y to average 11.79 mb/d in 2022. This forecast assumes ongoing capital discipline, inflation rates, completion crews and labour shortages.

Production of NGLs, mainly from unconventional shale sources, is forecast to increase by 0.34 mb/d to average 5.8 mb/d, and non-conventional liquids are projected to grow by 0.04 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	7.39	-0.45	7.28	-0.11	7.95	0.67
Gulf of Mexico crude	1.64	-0.25	1.80	0.16	1.88	0.08
Conventional crude oil	2.25	-0.30	2.06	-0.19	1.96	-0.10
Total crude	**11.28**	**-1.01**	**11.14**	**-0.14**	**11.79**	**0.65**
Unconventional NGLs	4.09	0.25	4.35	0.26	4.71	0.36
Conventional NGLs	1.09	0.10	1.10	0.01	1.08	-0.02
Total NGLs	**5.17**	**0.35**	**5.45**	**0.28**	**5.79**	**0.34**
Biofuels + Other liquids	1.15	-0.20	1.17	0.02	1.21	0.04
US total supply	**17.61**	**-0.86**	**17.76**	**0.15**	**18.79**	**1.03**

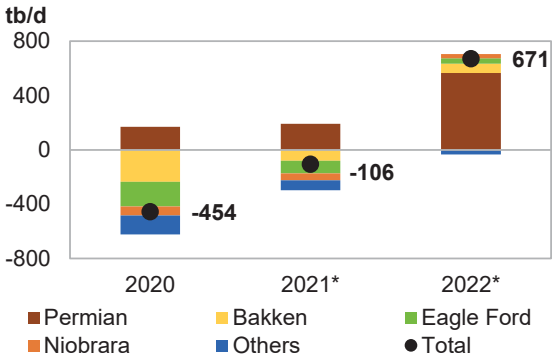
*Note: * 2021 = Estimation and 2022 = Forecast. Sources: EIA, OPEC and Rystad Energy.*

US tight crude production in 2021 and 2022 is expected to show continuous y-o-y growth in the Permian Basin by 192 tb/d and 566 tb/d to average 4.12 mb/d and 4.7 mb/d, respectively.

The decline rate in Bakken shale production slowed in 2021 compared to 2020, from a contraction of 235 tb/d to a decline of 80 tb/d, and is now expected to stand at an average of 1.1 mb/d in 2021. For 2022, tight crude production from the Bakken shale is forecast to grow by 67 tb/d on the back of increased drilling activity in North Dakota.

The Eagle Ford in Texas is expected to decline in 2021 by 95 tb/d to average 0.96 mb/d, but is forecast to grow in 2022 by 42 tb/d to average 1.0 mb/d. The rig-weighted average productivity (new-well oil production per rig) is still showing a y-o-y decline by 69 b/d, or 3%, in the Eagle Ford, according to the EIA-DPR (Drilling Productivity Report) forecast for February 2022. However, production is forecast to increase by 12 tb/d in February 2022 m-o-m.

Graph 5 - 11: US tight crude output by shale play, y-o-y changes



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

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	3.92	0.17	4.12	0.19	4.68	0.57
Bakken shale	1.18	-0.23	1.10	-0.08	1.17	0.07
Eagle Ford shale	1.05	-0.18	0.96	-0.09	1.00	0.04
Niobrara shale	0.47	-0.07	0.42	-0.05	0.45	0.03
Other tight plays	0.76	-0.14	0.69	-0.07	0.65	-0.03
Total	**7.39**	**-0.45**	**7.28**	**-0.11**	**7.95**	**0.67**

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

Production in the Niobrara, following an expected decline of 49 tb/d this year, is likely to grow by 29 tb/d y-o-y in 2022, to average 0.45 mb/d. Other shale plays are not expected to show growth in 2021 or 2022, given current drilling and completion activities.

US tight crude saw a contraction of 454 tb/d in 2020 and is expected to decline by 106 tb/d y-o-y in 2021. As of 2022, production is forecast to grow by 671 tb/d to average 7.95 mb/d.

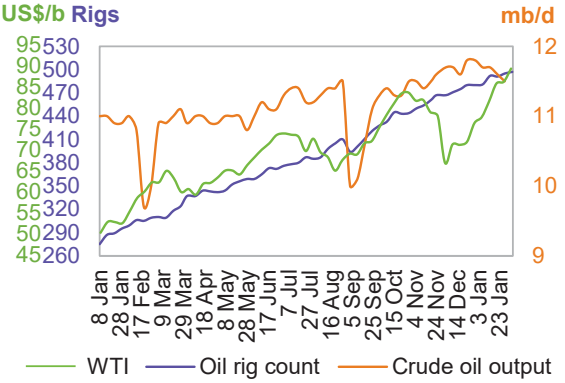
US rig count, spudded, completed, DUC wells and fracking activity

Total **US active drilling rigs** increased by 6 to 610 rigs in the week ended 28 January, which is 225 rigs more than a year ago. The number of active offshore rigs was steady w-o-w at 18, two rigs higher than in 2021. Moreover, 590 rigs (oil and gas) were active onshore, climbing by 6 w-o-w, and two in inland waters.

The US horizontal rig count rose by 9 rigs w-o-w to 553 rigs, compared to 344 horizontal rigs a year ago. The number of drilling rigs for oil increased by 4 to 495, while gas rigs climbed by 2 to 115 w-o-w.

Overall, in all the main basins, except for the Ardmore Wood Ford, which dropped by one rig on the weekly rig count, the number of rigs did not drop.

Graph 5 - 12: US weekly rig count vs. US crude oil output and WTI price



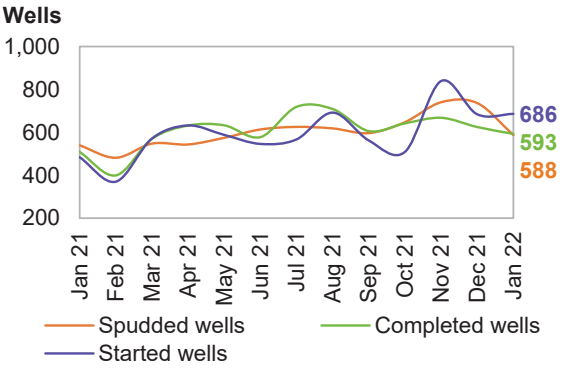
Sources: Baker Hughes, EIA and OPEC.

While the rig count in the Permian increased by one w-o-w to 293 rigs, the number of active rigs remains unchanged at 27 in the Williston, 43 in the Eagle Ford, 26 in Cana Woodford and 12 rigs in the DJ-Niobrara basins. Two rigs also mounted in the Barnett basin after seven weeks of no activity.

Drilling and completion (D&C) activities for spudded, completed and started wells in all US shale plays based on EIA DPR regions saw 588 horizontal wells spudded in January (as per preliminary data), down by 149 m-o-m, but 9% higher than in January 2021.

In January 2022, preliminary data indicates a lower number of completed wells at 593, but a marginally higher number of started wells at 686. However, the number of completed and started wells increased by 17% and 42% y-o-y, respectively.

Graph 5 - 13: Spudded, completed and started wells in US shale plays

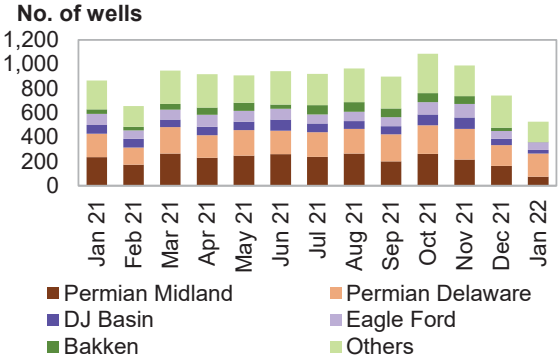


Note: Jan 22 = Preliminary data.
Sources: Rystad Energy and OPEC.

Regarding identified **US oil and gas fracking operations** by region, Rystad Energy reported that after the highest value of 1,087 fracked wells seen in October 2021 since March 2020, 526 wells started to frack in January. This preliminary number is based almost exclusively on analysis of high-frequency satellite data.

Preliminary data on fracking in January shows that 74 and 190 wells were fracked in the Permian Midland Tight and Permian Delaware Tight, respectively. In comparison with December 2021, there was a decrease of 88 wells fracked in the Midland and an increase of 17 wells fracked in the Delaware tight. Data also indicated that 30 wells were fracked in the DJ Basin compared with 64 in the Eagle Ford and only 1 in the Bakken in North Dakota.

Graph 5 - 14: Fracked wells count per month



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

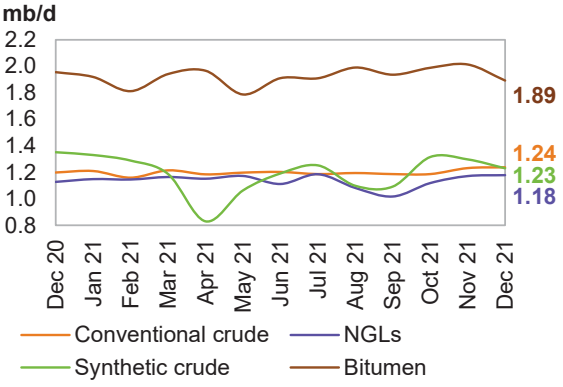
Canada

Canada's liquids production in December is estimated to have decreased by 175 tb/d m-o-m to average 5.58 mb/d.

Crude bitumen and synthetic crude output decreased by 188 tb/d to 3.12 mb/d, while production of conventional crude was up slightly by 6 tb/d for an average of 1.24 mb/d. At the same time, production of NGLs was marginally up by 7 tb/d m-o-m to average 1.18 mb/d.

The decrease in crude bitumen and synthetic crude output was mainly because of the two operational incidents at the Syncrude mine and Firebag in situ operations, which impacted production in late December. Both issues have been resolved with production back to normal levels, Suncor reported.

Graph 5 - 15: Canada's monthly liquids production development by type

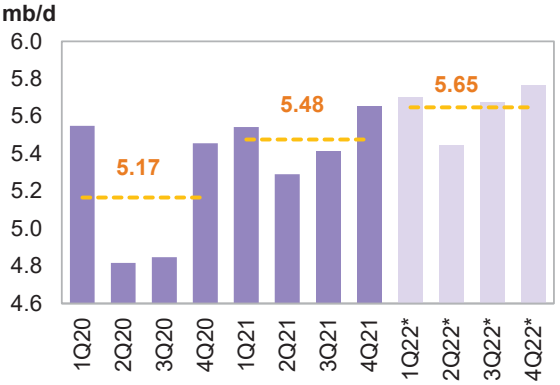


Sources: National Energy Board and OPEC.

Lower-than-forecast monthly liquids output throughout 4Q21 has necessitated a slight downward revision to Canadian liquids supply for **2021** by 17 tb/d, to show growth of 0.31 mb/d and an average of 5.48 mb/d.

For **2022**, Canada's liquids production is forecast to increase at a slower pace compared with the current year, rising by 0.17 mb/d to average 5.65 mb/d, remaining unchanged from the previous month's assessment.

Graph 5 - 16: Canada's quarterly liquids production and forecast



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

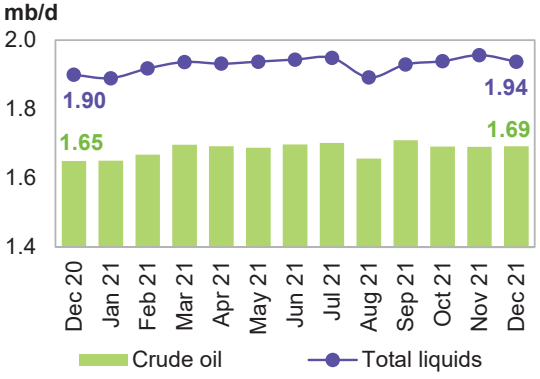
Mexico

Mexico's crude output was broadly flat in **December** to average 1.69 mb/d. However, NGL output decreased by 22 tb/d. Therefore, Mexico's total liquids output in December decreased by 20 tb/d m-o-m to average 1.94 mb/d.

For **2021**, liquids production in Mexico is forecast to grow 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.

Graph 5 - 17: Mexico's monthly liquids and crude production development



Sources: PEMEX and OPEC.

OECD Europe

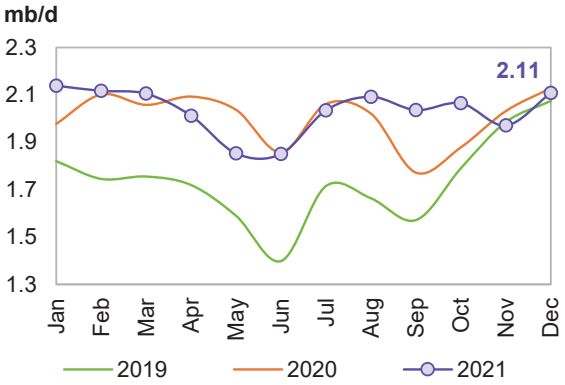
Norway

Norwegian Liquids production in **December** rose by 0.14 mb/d m-o-m to average 2.11 mb/d.

Crude production increased by 110 tb/d m-o-m to average 1.84 mb/d and was up by 30 tb/d y-o-y, which is still 0.2% lower than the NPD's forecast. Production of NGLs and condensates rose by 28 tb/d m-o-m to average 0.27 mb/d.

For **2021**, Norway's liquids supply growth forecast has been revised down slightly by 2 tb/d m-o-m due to lower-than-expected output in 4Q21 as a result of a number of unannounced repair activities, which saw a downward revision of 14 tb/d. Production is now expected to average 2.03 mb/d, with growth of 0.03 mb/d y-o-y.

Graph 5 - 18: Norway's monthly liquids production development



Sources: NPD and OPEC.

For **2022**, Norwegian liquids production is expected to grow by 0.13 mb/d to average 2.16 mb/d, with no considerable revision from last month's assessment. It is worth noting that the second development phase of the Johan Sverdrup field, which already provides 30% of Norway's crude oil production, is due to come onstream in 4Q22 and is expected to reach 755,000 b/d, according to state-controlled energy group Equinor.

UK

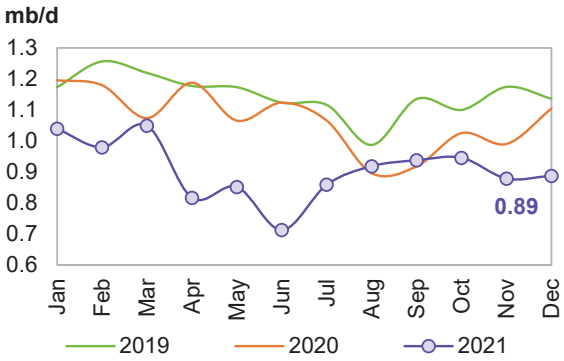
UK liquids production increased in December by 10 tb/d m-o-m to average 0.89 mb/d.

Crude oil output increased slightly by 10 tb/d m-o-m to average 0.76 mb/d, according to official data, and was down by 210 tb/d y-o-y. NGL output held steady m-o-m in December to average 92 tb/d.

For **2021**, UK liquids production 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.

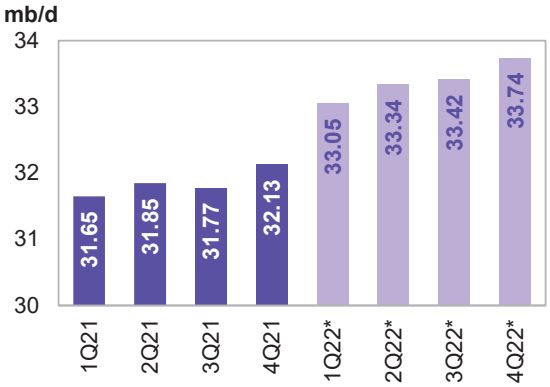
Graph 5 - 19: UK monthly liquids production development



Sources: Department of Energy & Climate Change and OPEC.

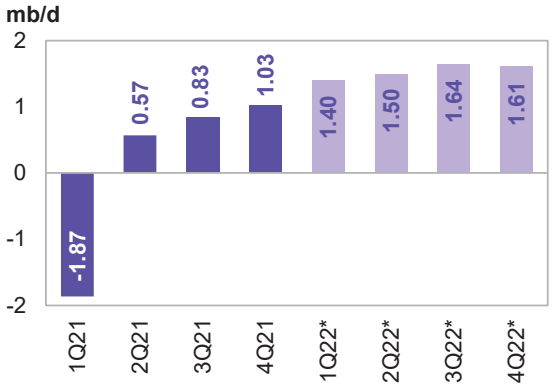
Non-OECD

Graph 5 - 20: Non-OECD quarterly liquids production and forecast



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

Graph 5 - 21: Non-OECD quarterly liquids supply, y-o-y changes

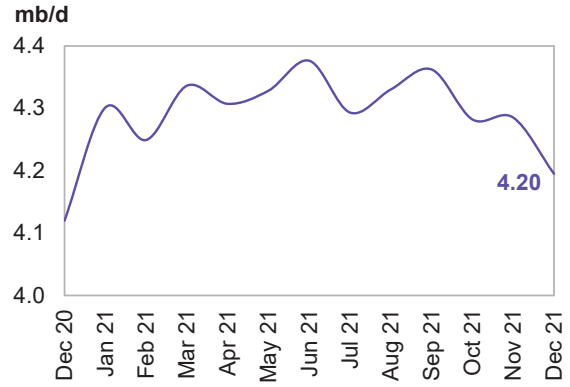


*Note: * 1Q22-4Q22 = Forecast. Source: OPEC.*

China

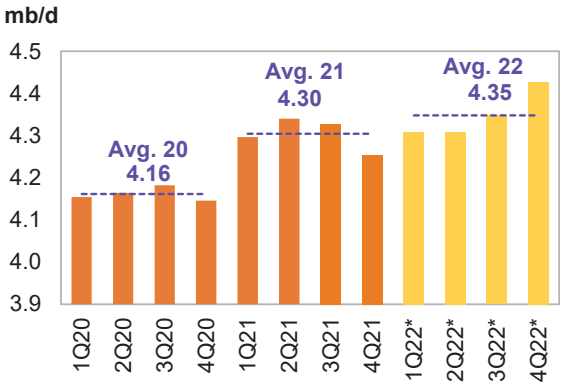
China's liquids production declined by 0.09 mb/d m-o-m in December to average 4.20 mb/d. The average liquid production in 2021 is estimated to be 4.3 mb/d, increased by 0.14 mb/d y-o-y, according to official data. Crude oil output in December dropped up by 91 tb/d to average 3.88 mb/d and was higher by 47 tb/d y-o-y. Crude oil output in January-December averaged 3.99 mb/d, up by 99 tb/d from the same period in 2020.

Graph 5 - 22: China's monthly liquids production development



Sources: CNPC and OPEC.

Graph 5 - 23: China's quarterly liquids production and forecast



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

For **2021**, China's liquids supply is projected to see growth of 0.14 mb/d to average 4.30 mb/d, with a minor downward revision of 18 tb/d from the previous assessment.

For **2022**, growth of 0.04 mb/d is forecast for an average of 4.35 mb/d.

Latin America

Brazil

Brazil's crude output in December decreased by 15 tb/d m-o-m to average 2.84 mb/d. NGLs declined by 8 tb/d to average 94 tb/d, and biofuel output remained steady at 594 tb/d. Therefore, in December, total liquids production decreased by 23 tb/d to average 3.53 mb/d, which was higher by 75 tb/d y-o-y. Non-conventional liquids (mainly ethanol) were revised down for all the quarters of 2021 at the end of January 2022.

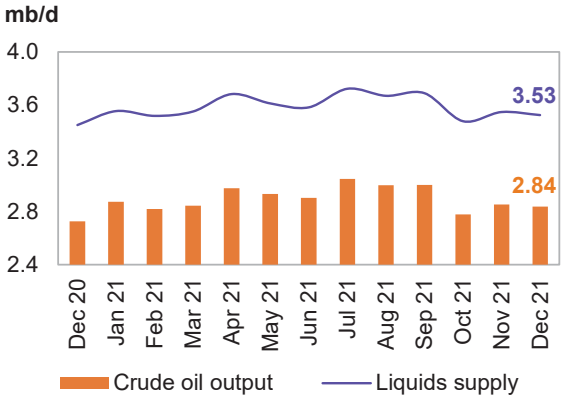
Average crude production in Brazil during January-December 2021 shows a decline of 35 tb/d compared with the same period in 2020, despite the production ramp-ups in the Sepia and Buzios fields. This is far from the initially expected growth for 2021. Maintenance impacted crude production, especially in 3Q21 and 4Q21. Moreover, COVID-19-related health and safety measures at production platforms, delays in project start-ups

and heavy natural declines at offshore mature fields, particularly in the Campos Basin, have also contributed to under-performance in production. The downward revision of ethanol for the whole year also affected estimated 2021 liquids production.

Hence, the initial liquids supply forecast for **2021** has been revised down by 28 tb/d m-o-m to average 3.60 m/d, a decline of 0.08 mb/d y-o-y.

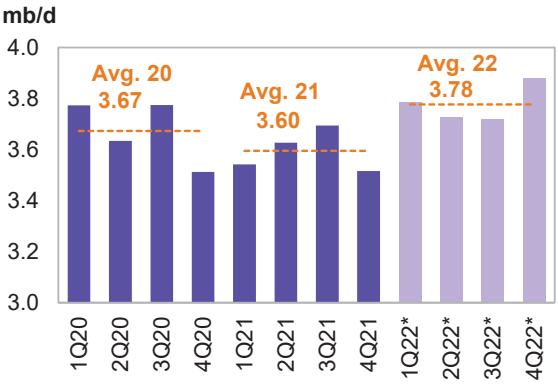
For **2022**, Brazil's liquids supply, including biofuels, is forecast to increase by 0.18 mb/d y-o-y to average 3.78 mb/d, revised down by 0.04 mb/d, in line with the downward revision by the Brazilian ANP for 2022. Crude oil production is expected to rise through two new project start-ups: Mero-1 (Guanabara), which was initially planned to start in 2021, and Peregrino-Phase 2. Moreover, in Buzios, a fifth unit, the Almirante Barroso FPSO — to be supplied by Japan's Modec — is due to begin operations in 2022.

Graph 5 - 24: Brazil's monthly liquids production development by type



Sources: ANP, Petrobras and OPEC.

Graph 5 - 25: Brazil's quarterly liquids production

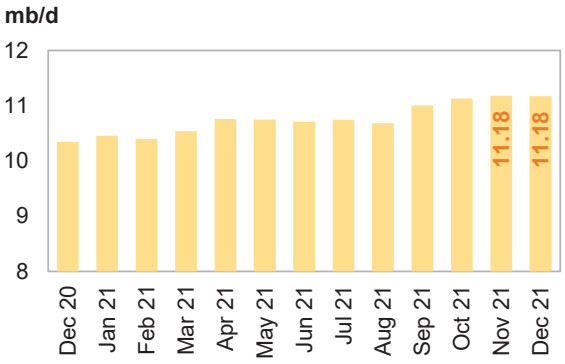


*Note: * 1Q22-4Q22 = Forecast. Sources: ANP and OPEC.*

Russia

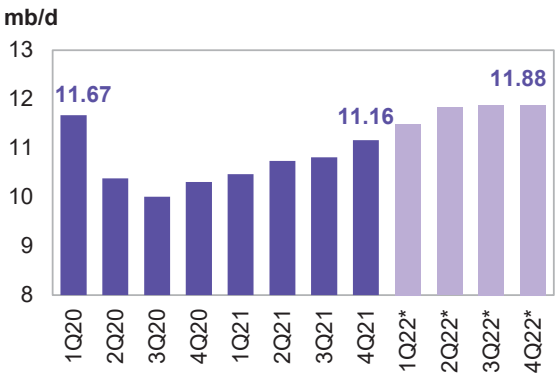
Russia's liquids production in December remained unchanged at 11.18 mb/d m-o-m. This includes 9.95 mb/d of crude oil and 1.23 mb/d of condensate and NGLs. A preliminary estimate for Russia's crude and condensate production in January 2022 based on the Ministry of Energy's production data shows an increase of 0.1 mb/d m-o-m to average 11.28 mb/d, which is higher by 0.82 mb/d y-o-y.

Graph 5 - 26: Russia's monthly liquids production



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

Graph 5 - 27: Russia's quarterly liquids production



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

Annual liquids production in **2021** increased by 0.2 mb/d y-o-y to average 10.80 mb/d, which is unchanged on a monthly basis.

For **2022**, Russian liquids output is expected to increase by 0.98 mb/d to average 11.77 mb/d, with 3Q22 and 4Q22 both expected to reach 11.88 mb/d, unchanged from the previous assessment.

Caspian

Kazakhstan & Azerbaijan

Liquids output in Kazakhstan remained broadly unchanged at an average of 2.01 mb/d in **December** on the back of the production from main oil fields such as Tengiz. Kazakh crude production inched up marginally by 10 tb/d m-o-m in December to average 1.63 mb/d, the highest output since April 2020, and was up by 0.2 mb/d y-o-y. At the same time, production of condensate and NGLs was unchanged m-o-m to average 376 tb/d in December.

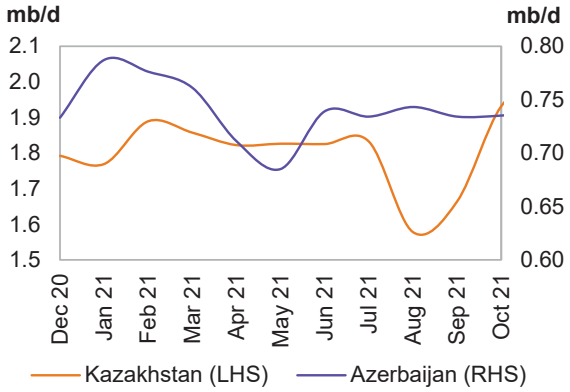
Kazakhstan's liquids supply forecast for **2021** was revised up marginally from the previous assessment and is estimated to have averaged 1.84 mb/d, higher by 0.01 mb/d y-o-y, while for **2022**, liquids supply is forecast to grow by 0.15 mb/d to average 1.99 mb/d.

Azerbaijan's liquids production in December increased by 0.01 mb/d m-o-m to average 0.75 mb/d, up by 0.02 mb/d y-o-y. Crude production inched up by 6 tb/d m-o-m to average 595 tb/d as maintenance was completed on the Chirag platform. Condensate output held steady at 150 tb/d, according to official sources.

Azeri liquids production is expected to increase in January 2022 to average 0.81 mb/d, following the completion of maintenance.

Azerbaijan's liquids supply is estimated to have grown by 0.01 mb/d y-o-y to average 0.74 mb/d in **2021**, while for **2022**, growth of 0.08 mb/d y-o-y is forecast for an average of 0.82 mb/d.

Graph 5 - 28: Caspian monthly liquids production development by selected country



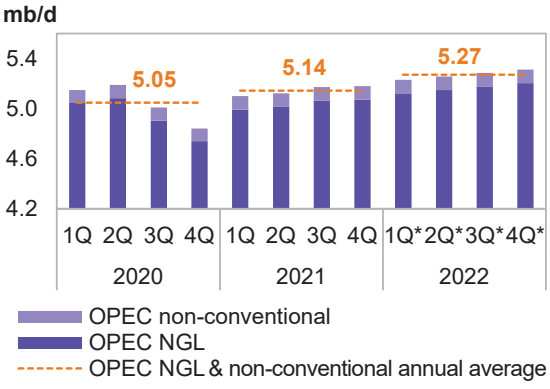
Sources: Nefte Compass and OPEC.

OPEC NGLs and non-conventional oils

Following a decline of 0.17 mb/d in 2020, **OPEC NGLs and non-conventional liquids in 2021** are estimated to have grown by 0.10 mb/d, to average 5.14 mb/d, unchanged from last month's assessment.

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 - 29: 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 27.98 mb/d in January 2022, higher by 0.06 mb/d m-o-m. Crude oil output increased mainly in Nigeria, Saudi Arabia, the UAE and Kuwait, while production in Venezuela, Libya and Iraq declined.

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

Secondary sources	2020	2021	2Q21	3Q21	4Q21	Nov 21	Dec 21	Jan 22	*Change* Jan/Dec
Algeria	897	908	886	922	954	954	965	970	*5*
Angola	1,255	1,120	1,109	1,106	1,124	1,087	1,164	1,155	*-9*
Congo	288	265	261	258	268	261	272	255	*-17*
Equatorial Guinea	115	100	106	99	91	85	103	96	*-6*
Gabon	195	186	186	186	187	185	199	185	*-14*
IR Iran	1,988	2,405	2,440	2,480	2,480	2,473	2,482	2,503	*21*
Iraq	4,049	4,024	3,940	4,053	4,219	4,242	4,271	4,245	*-27*
Kuwait	2,430	2,415	2,356	2,445	2,528	2,531	2,551	2,579	*27*
Libya	367	1,148	1,151	1,154	1,114	1,137	1,053	1,008	*-45*
Nigeria	1,579	1,380	1,424	1,349	1,335	1,381	1,317	1,398	*81*
Saudi Arabia	9,182	9,091	8,502	9,536	9,860	9,871	9,945	9,999	*54*
UAE	2,802	2,718	2,644	2,762	2,854	2,852	2,880	2,924	*44*
Venezuela	500	558	513	538	667	669	718	668	*-51*
Total OPEC	**25,648**	**26,319**	**25,520**	**26,886**	**27,682**	**27,727**	**27,918**	**27,981**	***64***

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	2Q21	3Q21	4Q21	Nov 21	Dec 21	Jan 22	*Change* Jan/Dec
Algeria	899	911	886	924	958	959	966	977	*11*
Angola	1,271	1,124	1,125	1,114	1,122	1,110	1,150	1,193	*43*
Congo	300	267	265	266	260	253	257	275	*18*
Equatorial Guinea	114	94	99	94	79	71	85	88	*3*
Gabon	207	181	179	180	183	188	189	..	*..*
IR Iran	..	..	..	..	..	..	..	..	*..*
Iraq	3,997	3,971	3,890	3,979	4,167	4,208	4,225	4,162	*-63*
Kuwait	2,438	2,415	2,355	2,447	2,528	2,532	2,549	2,584	*35*
Libya	389	1,207	1,213	1,220	1,182	1,211	1,092	1,075	*-18*
Nigeria	1,493	1,312	1,343	1,270	1,233	1,275	1,197	1,399	*202*
Saudi Arabia	9,213	9,125	8,535	9,565	9,905	9,912	10,022	10,145	*123*
UAE	2,779	2,718	2,645	2,758	2,854	2,852	2,878	2,924	*46*
Venezuela	569	636	556	635	817	824	871	755	*-116*
Total OPEC	..	..	..	..	..	..	..	..	*..*

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

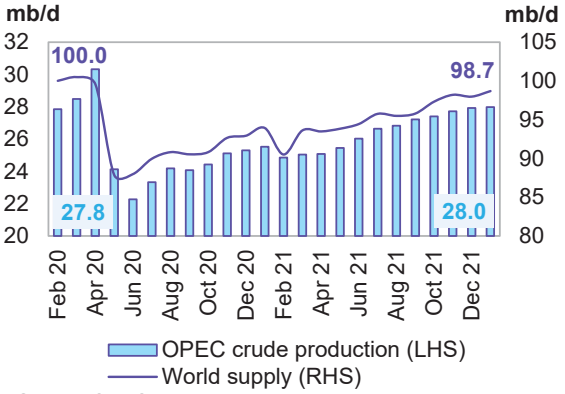
World oil supply

Preliminary data indicates that **global liquids production in January** increased by 0.71 mb/d to average 98.69 mb/d compared with the previous month.

Non-OPEC liquids production (including OPEC NGLs) is estimated to have increased in January by 0.65 mb/d compared with the previous month to average 70.71 mb/d, higher by 2.3 mb/d y-o-y. Preliminary increases in production of 0.53 mb/d during January were driven by the non-OECD, mainly by Russia, Ecuador and Brazil, while output in the OECD was up by 0.08 mb/d, primarily driven by Norway and the UK.

The **share of OPEC crude oil in total global production** decreased by 0.1 pp to 28.4% in January 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 - 30: OPEC crude production and world oil supply development



Source: OPEC.

Commercial Stock Movements

Preliminary December data sees total OECD commercial oil stocks down m-o-m by 31.2 mb. At 2,725 mb, they were 311 mb less than the same time one year ago, 210 mb lower than the latest five-year average (2016-2020) and 202 mb below the 2015-2019 average. Within the components, crude and products stocks fell m-o-m by 18.3 mb and 12.9 mb, respectively.

At 1,330 mb, OECD crude stocks were 99 mb less than the latest five-year average and 100 mb below the 2015-2019 average. OECD product stocks stood at 1,395 mb, representing a deficit of 111 mb compared with the latest five-year average and 102 mb below the 2015-2019 average.

In terms of days of forward cover, OECD commercial stocks rose m-o-m in December by 0.1 days to stand at 61.1 days. This is 10.6 days below December 2020 levels, 2.9 days less than the latest five-year average and 1.3 days lower than the 2015-2019 average.

Preliminary data for January showed that total US commercial oil stocks fell m-o-m by 15.8 mb to stand at 1,179 mb. This is 152.2 mb, or 11.4%, lower than the same month in 2021 and 113.9 mb, or 8.8%, below the latest five-year average. Crude and product stocks fell m-o-m by 2.7 mb and 13.1 mb, respectively.

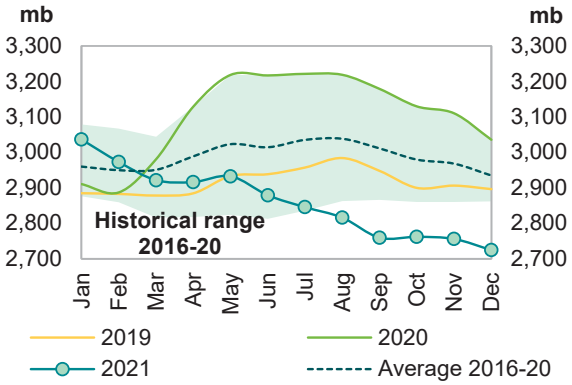
OECD

Preliminary December data sees **total OECD commercial oil stocks** down m-o-m by 31.2 mb. At 2,725 mb, they were 311 mb less than the same time one year ago, 210 mb lower than the latest five-year average and 202 mb below the 2015-2019 average.

Within the components, crude and product stocks fell m-o-m by 18.3 mb and 12.9 mb, respectively. Total commercial oil stocks in December declined in all OECD regions.

OECD **commercial crude stocks** stood at 1,330 mb in December. This is 147 mb lower than the same time a year ago and 99 mb below the latest five-year average. Compared with the previous month, OECD Americas saw a stock draw of 16.1 mb, OECD Europe fell by 3.8 mb, and OECD Asia Pacific had a stock build of 1.6 mb.

Graph 9 - 1: OECD commercial oil stocks



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

Total product inventories stood at 1,395 mb in December. This is 164 mb less than the same time a year ago, and 111 mb lower than the latest five-year average. Product stocks in OECD Asia Pacific, OECD Americas and OECD Europe fell m-o-m by 3.4 mb, 2.8 mb and 6.7 mb, respectively.

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

OECD stocks	Dec 20	Oct 21	Nov 21	Dec 21	Change Dec 21/Nov 21
Crude oil	1,477	1,337	1,348	1,330	*-18.3*
Products	1,558	1,425	1,407	1,395	*-12.9*
Total	**3,035**	**2,762**	**2,756**	**2,725**	***-31.2***
Days of forward cover	**71.8**	**60.8**	**61.0**	**61.1**	***0.1***

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 rose m-o-m by 0.1 days in December to stand at 61.1 days. This is 10.6 days below December 2020 levels, 2.9 days less than the latest five-year average and 1.3 days lower than the 2015-2019 average. All three OECD regions were below the latest five-year average: the Americas by 2.0 days at 62.0 days, Asia Pacific by 2.2 days at 46.7 days and Europe by 5.5 days at 67.6 days.

OECD Americas

OECD Americas total commercial stocks fell by m-o-m in December 18.9 mb to settle at 1,500 mb. This is 112 mb less than the same month in 2020 and 55 mb lower than the latest five-year average.

Commercial crude oil stocks in OECD Americas fell m-o-m by 16.1 mb in December to stand at 761 mb, which is 57 mb lower than in December 2020 and 15 mb less than the latest five-year average. The stock drawn came on the back of higher December crude runs.

Total product stocks in OECD Americas fell m-o-m by 2.8 mb in December to stand at 739 mb. This was 55 mb lower than the same month of 2020 and 40 mb below the latest five-year average. Higher total consumption in the region was behind the stock build.

OECD Europe

OECD Europe total commercial stocks fell m-o-m by 10.5 mb in December to settle at 880 mb. This is 164 mb less than the same month in 2020 and 99 mb below the latest five-year average.

OECD Europe's **commercial crude stocks** in December fell m-o-m by 3.8 mb to end the month at 400 mb, which is 48 mb lower than one year ago and 23 mb below the latest five-year average. The fall in crude oil inventories came despite lower m-o-m refinery crude runs in the EU-14, plus the UK and Norway.

OECD Europe's **commercial product stocks** fell m-o-m by 6.7 mb to end December at 480 mb. This is 116 mb lower than a year ago and 76 mb below the latest five-year average.

OECD Asia Pacific

OECD Asia Pacific's total commercial oil stocks fell m-o-m by 1.8 mb in December to stand at 345 mb. This is 35 mb lower than a year ago and 56 mb below the latest five-year average.

OECD Asia Pacific's **crude inventories** rose by 1.6 mb m-o-m to end December at 169 mb, which is 42 mb lower than one year ago and 61 mb below the latest five-year average.

In contrast, OECD Asia Pacific's **total product inventories** fell m-o-m by 3.4 mb to end December at 175 mb. This is 7.0 mb higher than the same time a year ago and 4.7 mb above the latest five-year average.

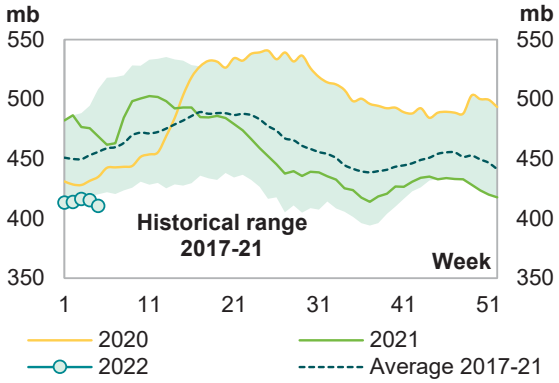
US

Preliminary data for January showed that **total US commercial oil stocks** fell m-o-m by 15.8 mb to stand at 1,179 mb. This is 151.2 mb, or 11.4%, lower than the same month in 2021 and 113.9 mb, or 8.8%, below the latest five-year average. Crude and product stocks fell m-o-m by 2.7 mb and 13.1 mb, respectively.

US **commercial crude stocks** in January stood at 415.1 mb. This is 60.7 mb, or 12.8%, lower than the same month of the previous year, and 43.4 mb, or 9.5%, below the latest five-year average. The stock draw came on the back of lower crude imports, and despite lower crude runs.

Total product stocks in January stood at 763.8 mb. This is 90.5 mb, or 10.6%, below January 2021 levels, and 70.5 mb, or 8.5%, lower than the latest five-year average. The stock draw was mainly driven by higher overall US consumption, with the exception of gasoline.

Graph 9 - 2: US weekly commercial crude oil inventories



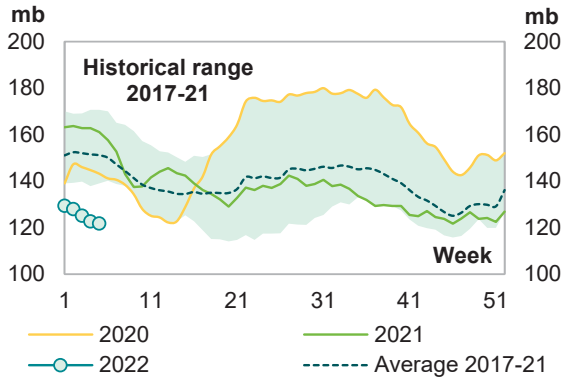
Sources: EIA and OPEC.

Gasoline stocks in January, however, rose m-o-m by 17.3 mb to settle at 250.0 mb. This is 5.1 mb, or 2.0%, below the same month in 2021, and 8.6 mb, or 3.3%, lower than the latest five-year average. The monthly stock build came mainly on the back of lower gasoline consumption.

Jet fuel stocks rose m-o-m by 2.3 mb, ending January at 37.3 mb. This is 5.3 mb, or 12.4%, lower than the same month of 2021, and 5.2 mb, or 12.3%, below the latest five-year average.

In contrast, **distillate stocks** fell m-o-m in January by 4.1 mb to stand at 122.7 mb. This is 40.1 mb, or 24.6%, lower than the same month of the previous year, and 28.8 mb, or 19%, below the latest five-year average.

Graph 9 - 3: US weekly distillate inventories



Sources: EIA and OPEC.

Residual fuel oil stocks also fell m-o-m in January, dropping by 0.8 mb. At 25.1 mb, this was 6.9 mb, or 21.6%, lower than a year earlier, and 7.5 mb, or 23%, below the latest five-year average.

Table 9 - 2: US commercial petroleum stocks, mb

US stocks	Jan 21	Nov 21	Dec 21	Jan 22	Change Jan 22/Dec 21
Crude oil	**475.9**	**434.0**	**417.9**	**415.1**	***-2.7***
Gasoline	255.1	220.6	232.8	250.0	*17.3*
Distillate fuel	162.8	131.6	126.8	122.7	*-4.1*
Residual fuel oil	32.0	27.6	25.9	25.1	*-0.8*
Jet fuel	42.6	36.7	35.0	37.3	*2.3*
Total products	**854.2**	**794.7**	**776.9**	**763.8**	***-13.1***
Total	**1,330.1**	**1,228.7**	**1,194.8**	**1,178.9**	***-15.8***
SPR	**638.1**	**601.5**	**593.7**	**588.9**	***-4.8***

Sources: EIA and OPEC.

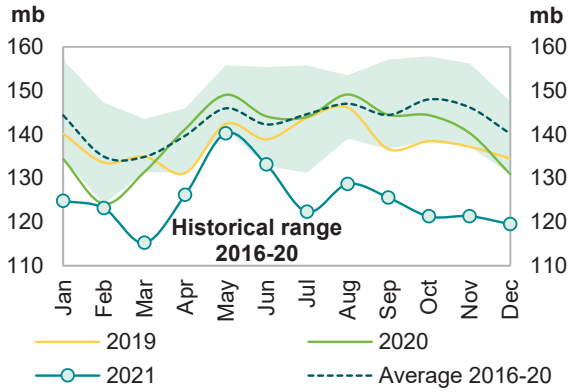
Japan

In **Japan**, **total commercial oil stocks** in December fell m-o-m by 1.8 mb to settle at 119.5 mb. This is 11.4 mb, or 8.7%, lower than the same month in 2020, and 20.6 mb, or 14.7%, below the latest five-year average. Crude stocks rose by 1.6 mb, while product stocks fell m-o-m by 3.4 mb.

Japanese **commercial crude oil stocks** rose in December to stand at 60.3 mb. This is 6.1 mb, or 9.2%, below the same month of the previous year, and 18.8 mb, or 23.8%, lower than the latest five-year average. The build came on the back of higher imports, which increased by 6% m-o-m.

In contrast, Japan's **total product inventories** fell m-o-m by 3.4 mb to end December at 59.2 mb. This is 5.3 mb, or 8.2%, lower than the same month in 2020, and 1.8 mb, or 2.9%, below the latest five-year average.

Graph 9 - 4: Japan's commercial oil stocks



Sources: METI and OPEC.

Gasoline stocks rose m-o-m by 0.1 mb to stand at 10.5 mb. This was 2.1 mb, or 16.5%, lower than a year earlier, but 0.1 mb, or 0.6%, higher than the latest five-year average. Higher production, which rose by 8.6%, was behind the gasoline stock build.

Total residual fuel oil stocks rose m-o-m by 0.7 mb to end December at 12.4 mb. This is 0.7 mb, or 5.6%, higher than in the same month of the previous year, but 0.4 mb, or 3.2%, below the latest five-year average. Within the components, fuel oil A stocks rose by 2.6%, while fuel oil B.C stocks fell by 12.3%.

In contrast, **distillate stocks** fell m-o-m by 3.8 mb to end December 28.3 mb. This is 1.5 mb, or 5.1%, lower than the same month in 2020, and 0.3 mb, or 1%, below the latest five-year average. Within the distillate components, **kerosene and gasoil** fell m-o-m by 18.6% and 8.2%, respectively, while **jet fuel stocks** rose by 2.9%.

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

Japan's stocks	Dec 20	Oct 21	Nov 21	Dec 21	Change Dec 21/Nov 21
Crude oil	**66.4**	**55.9**	**58.7**	**60.3**	***1.6***
Gasoline	12.6	11.7	10.5	10.5	*0.1*
Naphtha	10.4	9.8	8.5	8.1	*-0.4*
Middle distillates	29.8	31.9	32.1	28.3	*-3.8*
Residual fuel oil	11.7	12.0	11.7	12.4	*0.7*
Total products	**64.5**	**65.4**	**62.7**	**59.2**	***-3.4***
Total**	**130.9**	**121.3**	**121.4**	**119.5**	***-1.8***

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

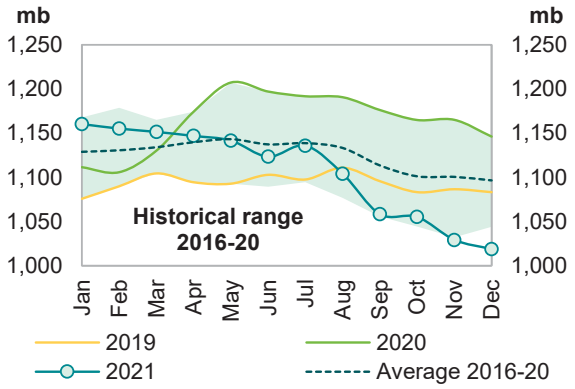
EU-14 plus UK and Norway

Preliminary data for December showed that **total European commercial oil stocks** fell m-o-m by 10.5 mb to stand at 1,018.7 mb. At this level, they were 127.4 mb, or 11.1%, below the same month a year earlier, and 78.0 mb, or 7.1%, lower than the latest five-year average. Crude and product stocks fell m-o-m by 3.8 mb and 6.7 mb, respectively.

European **crude inventories** fell in December to stand at 420.9 mb. This is 61.2 mb, or 12.7% lower than the same month in 2020, and 49.1 mb, or 10.4%, below the latest five-year average. The fall in crude oil inventories came despite lower m-o-m refinery throughputs in the EU-14, plus UK and Norway.

Total European product stocks fell m-o-m to end December at 597.9 mb. This is 66.2 mb, or 10%, lower than the same month of the previous year, and 28.9 mb, or 4.6%, below the latest five-year average.

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



Sources: Argus, Euroilstock and OPEC.

Gasoline stocks fell m-o-m by 1.1 mb in December to stand at 106.8 mb. At this level, they were 13.4 mb, or 11.2%, lower than the same time a year earlier, and 11.1 mb/d, or 9.4%, less than the latest five-year average.

Distillate stocks fell m-o-m by 5.0 mb in December to stand at 404.4 mb. This is 45.2 mb, or 10.1%, below the same month in 2020, and 12.7 mb, or 3.0 %, less than the latest five-year average.

Naphtha stocks fell by 1.0 mb in December, ending the month at 24.4 mb. This is 4.9 mb, or 16.8%, below December 2020 levels, and 3.3 mb, or 11.8 %, below the latest five-year average.

In contrast**, residual fuel stocks** rose m-o-m by 0.3 mb in December to stand at 62.3 mb. This is 2.7 mb, or 4.1%, lower than the same month in 2020, and 1.8 mb, or 2.8%, below the latest five-year average.

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

EU stocks	Dec 20	Oct 21	Nov 21	Dec 21	Change Dec 21/Nov 21
Crude oil	**482.0**	**438.8**	**424.6**	**420.9**	***-3.8***
Gasoline	120.2	108.6	107.9	106.8	*-1.1*
Naphtha	29.3	25.3	25.3	24.4	*-1.0*
Middle distillates	449.6	419.9	409.4	404.4	*-5.0*
Fuel oils	65.0	62.6	62.0	62.3	*0.3*
Total products	**664.1**	**616.4**	**604.6**	**597.9**	***-6.7***
Total	**1,146.1**	**1,055.2**	**1,029.2**	**1,018.7**	***-10.5***

Sources: Argus, Euroilstock and OPEC.

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

Singapore

In December, **total product stocks in Singapore** fell m-o-m by 0.5 mb to 39.9 mb. This is 11.2 mb, or 21.8%, lower than the same month in 2020.

Light distillate stocks fell m-o-m by 0.1 mb in December to stand at 11.9 mb. This is 2.0 mb, or 14.2%, lower than the same month of the previous year.

Middle distillate stocks also fell m-o-m by 0.1 mb in December to stand at 8.0 mb. This is 7.1 mb, or 47.3%, lower than a year earlier.

Residual fuel oil stocks fell m-o-m by 0.3 mb, ending December at 20.0 mb. This is 2.0 mb, or 9.3%, lower than in December 2020.

ARA

Total product stocks in ARA rose m-o-m in December by 0.7 mb to stand at 37.8 mb, reversing the fall of previous nine consecutive months. This is 13.9 mb, or 26.9%, lower than the same month in 2020.

Gasoline stocks in December rose m-o-m by 1.5 mb to stand at 8.7 mb, which is 1.7 mb, or 16.3%, lower than the same month of the previous year.

Jet oil stocks rose m-o-m by 0.7 mb to end December at 7.1 mb. This is 1.2 mb, or 14.7%, below the level registered one year earlier.

By contrast, **gasoil stocks** fell by 0.3 mb to end December at 13.0 mb. This is 6.3 mb, or 32.8%, lower than the level seen in December 2020.

Fuel oil stocks also fell m-o-m by 0.4 mb in December to stand at 7.5 mb, which is 1.4 mb, or 15.9%, lower than in December 2020.

Fujairah

During the week ending 31 January 2022, **total oil product stocks in Fujairah** rose w-o-w by 2.66 mb to stand at 19.60 mb, according to data from Fed Com and S&P Global Platts. At this level, total oil stocks were 3.68 mb lower than the same time a year ago. All products witnessed a stock build w-o-w.

Light distillate stocks rose by 1.05 mb w-o-w to stand at 6.36 mb in the week to 31January 2022, which is 0.97 mb lower than the same period a year ago. **Heavy distillate stocks** increased by 1.54 mb to stand at 11.38 mb, which is 0.6 mb higher than the same time last year. **Middle distillate stocks** rose by 0.06 mb to stand at 1.86 mb, which is 3.31 mb lower than a year ago.

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	25.47	22.44	22.73	24.33	24.74	24.89	24.19	24.04	25.42	25.77	25.70	25.24
of which US	*20.60*	*20.65*	*18.35*	*18.65*	*20.21*	*20.39*	*20.56*	*19.96*	*19.69*	*21.07*	*21.36*	*21.28*	*20.86*
Europe	14.31	14.31	12.43	11.91	12.63	13.84	13.64	13.02	12.63	13.22	14.49	14.16	13.63
Asia Pacific	8.01	7.93	7.14	7.67	7.04	7.11	7.72	7.39	7.91	7.22	7.25	7.83	7.55
Total OECD	**47.73**	**47.72**	**42.02**	**42.31**	**44.00**	**45.70**	**46.26**	**44.59**	**44.58**	**45.86**	**47.50**	**47.69**	**46.43**
China	13.01	13.65	13.52	13.79	14.55	14.52	15.21	14.52	14.64	15.44	15.00	15.65	15.18
India	4.93	4.99	4.51	4.94	4.50	4.59	5.12	4.79	5.48	4.82	4.97	5.44	5.18
Other Asia	8.91	9.06	8.13	8.56	8.98	8.34	8.62	8.63	9.25	9.59	8.93	8.95	9.18
Latin America	6.53	6.59	6.01	6.25	6.16	6.46	6.35	6.30	6.49	6.33	6.61	6.51	6.48
Middle East	8.13	8.20	7.55	7.95	7.77	8.24	7.99	7.99	8.30	8.01	8.49	8.22	8.26
Africa	4.33	4.35	4.08	4.37	4.08	4.15	4.40	4.25	4.54	4.21	4.27	4.53	4.39
Russia	3.55	3.57	3.39	3.65	3.42	3.63	3.76	3.61	3.75	3.47	3.68	3.81	3.68
Other Eurasia	1.21	1.19	1.07	1.23	1.24	1.09	1.28	1.21	1.30	1.29	1.12	1.32	1.26
Other Europe	0.74	0.76	0.70	0.78	0.72	0.73	0.79	0.75	0.80	0.73	0.74	0.81	0.77
Total Non-OECD	**51.34**	**52.38**	**48.96**	**51.52**	**51.43**	**51.74**	**53.52**	**52.06**	**54.55**	**53.90**	**53.82**	**55.23**	**54.37**
(a) Total world demand	**99.07**	**100.10**	**90.97**	**93.83**	**95.43**	**97.44**	**99.77**	**96.65**	**99.13**	**99.75**	**101.32**	**102.92**	**100.80**
Y-o-y change	***1.40***	***1.03***	***-9.12***	***-0.71***	***11.82***	***6.00***	***5.51***	***5.67***	***5.30***	***4.32***	***3.87***	***3.14***	***4.15***
Non-OPEC liquids production													
Americas	24.03	25.81	24.70	24.10	25.17	25.20	26.21	25.17	26.14	26.11	26.48	26.86	26.40
of which US	*16.66*	*18.47*	*17.61*	*16.63*	*17.93*	*17.85*	*18.61*	*17.76*	*18.48*	*18.68*	*18.83*	*19.14*	*18.79*
Europe	3.84	3.71	3.90	3.96	3.52	3.81	3.81	3.77	3.87	3.75	3.81	4.13	3.89
Asia Pacific	0.41	0.52	0.52	0.50	0.45	0.53	0.53	0.50	0.54	0.54	0.53	0.53	0.53
Total OECD	**28.28**	**30.04**	**29.12**	**28.56**	**29.13**	**29.54**	**30.55**	**29.45**	**30.55**	**30.39**	**30.82**	**31.53**	**30.82**
China	3.98	4.05	4.16	4.30	4.34	4.33	4.25	4.30	4.31	4.31	4.35	4.43	4.35
India	0.86	0.82	0.77	0.76	0.75	0.75	0.74	0.75	0.73	0.75	0.78	0.80	0.77
Other Asia	2.73	2.69	2.51	2.52	2.46	2.33	2.36	2.42	2.44	2.41	2.39	2.38	2.41
Latin America	5.79	6.08	6.04	5.94	5.97	6.09	5.82	5.96	6.25	6.20	6.14	6.35	6.23
Middle East	3.19	3.19	3.19	3.22	3.23	3.24	3.27	3.24	3.34	3.34	3.36	3.36	3.35
Africa	1.49	1.51	1.41	1.37	1.35	1.32	1.32	1.34	1.29	1.27	1.25	1.22	1.25
Russia	11.52	11.61	10.59	10.47	10.74	10.81	11.16	10.80	11.49	11.83	11.88	11.88	11.77
Other Eurasia	3.08	3.07	2.91	2.96	2.89	2.79	3.08	2.93	3.10	3.13	3.17	3.22	3.15
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	**32.75**	**33.14**	**31.71**	**31.65**	**31.85**	**31.77**	**32.13**	**31.85**	**33.05**	**33.34**	**33.42**	**33.74**	**33.39**
Total Non-OPEC production	61.03	63.19	60.82	60.21	60.98	61.32	62.68	61.30	63.60	63.73	64.24	65.27	64.21
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	**63.37**	**65.55**	**62.97**	**62.49**	**63.26**	**63.60**	**64.96**	**63.58**	**65.99**	**66.13**	**66.63**	**67.66**	**66.61**
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	**68.66**	**70.76**	**68.02**	**67.59**	**68.38**	**68.77**	**70.14**	**68.73**	**71.22**	**71.38**	**71.92**	**72.97**	**71.88**
Y-o-y change	***3.05***	***2.10***	***-2.74***	***-4.56***	***2.18***	***2.20***	***2.96***	***0.71***	***3.63***	***3.00***	***3.15***	***2.83***	***3.15***
OPEC crude oil production (secondary sources)	31.35	29.36	25.65	25.15	25.52	26.89	27.68	26.32					
Total liquids production	100.01	100.13	93.67	92.75	93.90	95.66	97.82	95.05					
Balance (stock change and miscellaneous)	0.94	0.03	2.69	-1.08	-1.53	-1.79	-1.95	-1.60					
OECD closing stock levels, *mb*													
Commercial	2,873	2,896	3,035	2,921	2,879	2,759	2,725	2,725					
SPR	1,552	1,535	1,541	1,546	1,524	1,513	1,485	1,485					
Total	**4,425**	**4,432**	**4,577**	**4,467**	**4,402**	**4,272**	**4,209**	**4,209**					
Oil-on-water	1,058	1,033	1,148	1,138	1,131	1,169	1,201	1,201					
Days of forward consumption in OECD, *days*													
Commercial onland stocks	60	69	68	66	63	60	61	59					
SPR	33	37	35	35	33	33	33	32					
Total	**93**	**105**	**103**	**102**	**96**	**92**	**94**	**91**					
Memo items													
(a) - (b)	**30.41**	**29.34**	**22.95**	**26.23**	**27.05**	**28.67**	**29.63**	**27.92**	**27.91**	**28.37**	**29.40**	**29.94**	**28.92**

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

Source: OPEC.

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

Oil Market Report - February 2022

Report extract

Overview

Highlights

- Global oil supply rose by 560 kb/d to 98.7 mb/d in January, but the uptrend was slowed by a chronic OPEC+ under-performance versus targets that has taken 300 mb of oil off the market since the start of 2021. If OPEC+ cuts are fully unwound, world oil output could rise by 6.3 mb/d in 2022. That would erode effective spare capacity, which could fall from 5.1 mb/d to 2.5 mb/d by year-end. A further 1.3 mb/d of Iranian crude supply could gradually be brought to market should sanctions be lifted.
- A reassessment of historical data has resulted in a significant upgrade to our demand estimates. While the revisions lift baseline demand – primarily for Saudi Arabia (in LPG use) and China (in the petrochemical sector) – by nearly 800 kb/d, growth rates are largely unchanged. World oil demand is set to expand by 3.2 mb/d this year, to reach 100.6 mb/d, as restrictions to contain the spread of Covid ease.
- The global refining industry has underperformed relative to demand for the past six quarters and this is set to continue for most of 2022. The 3.8 mb/d forecast increase in throughputs this year lags behind demand growth even as 4Q22 runs are forecast to surpass pre-pandemic levels. Further upside is capped by closures and higher energy costs affecting refinery margins.
- OECD industry oil stocks declined by a steep 60 mb in December, led by large draws in middle distillates across all regions. At 2 680 mb, oil inventories were 355 mb lower than a year ago and at their lowest in seven years. Stocks covered 59.6 days of forward demand, a decrease of 0.9 days from a month earlier and 3.2 days below the historical average. Preliminary data for January show OECD industry stocks falling by another 13.5 mb.
- Benchmark crude oil prices surged by ~$15/bbl in January, breaching the $90/bbl threshold for the first time since 2014. Backwardation on the 12-month strip beginning with the April 2022 contract has hit double digits for both WTI and Brent, reflecting low crude stock levels. Despite the significant crude oil price tensions, product price premiums versus the crude markers remain robust and are even rising, indicating product market tightness - notably for gasoil.

Unmet targets

Chronic underperformance by OPEC+ in meeting its output targets and rising geopolitical tensions have propelled oil prices higher. Benchmark crude prices rose by more than 15% in January to cross the $90/bbl threshold for the first time in more than seven years. Global oil

stocks at multi-year lows and dwindling OPEC+ spare capacity have left the market with only a small cushion.

In January, producers outside the OPEC+ alliance were the ones driving world oil supply higher. Further increases are expected in the coming months as new projects start up and US shale continues to respond to higher prices. That has led us to raise our forecast for US oil supply growth for 2022 to 1.2 mb/d. Canada, Brazil and Guyana could add an additional 460 kb/d between them. By contrast, the gap between OPEC+ output and its target levels swelled to 900 kb/d in January. The bloc's prolonged underperformance has effectively taken 300 mb, or 800 kb/d, off the market since the start of 2021.

That shortfall is expected to deepen as some OPEC+ members struggle with production constraints, exacerbating market tightness. OECD industry oil inventories plunged by a hefty 60 mb in December, to stand 255 mb below the five-year average and at their lowest level in seven years. Over the past 12 months, industry stocks have declined by 355 mb despite the release of more than 50 mb of oil from government reserves over the same period.

Meanwhile, our continued examination of historical demand data has gone a long way to closing the gap between observed and implied inventory changes apparent for some time in this Report. More complete information now available and new methodologies for capturing data continue to shed light on areas not well covered in official statistics. While the data revisions lift demand for Saudi Arabia (in LPG consumption) and China (in the petrochemical sector), overall growth rates are barely changed. World oil demand is set to rise by 3.2 mb/d in 2022 as restrictions to limit the spread of Covid ease, releasing pent-up demand.

Despite higher demand and the recurring failure of OPEC+ to meet its targets, the market is still set to shift to surplus in 2022. Non-OPEC+ producers could add 2 mb/d of supply, and if OPEC+ cuts are fully unwound, the bloc could increase output by 4.3 mb/d. Of course, that would come at the expense of effective spare capacity, which could fall to 2.5 mb/d by the end of the year and end up held almost entirely by Saudi Arabia and, to a lesser extent, the UAE. Iran, if released from sanctions, could add another 1.3 mb/d.

If the persistent gap between OPEC+ output and its target levels continues, supply tensions will rise, increasing the likelihood of more volatility and upward pressure on prices. But these risks, which have broad economic implications, could be reduced if producers in the Middle East with spare capacity were to compensate for those running out.

IEA World Oil Supply and Demand Forecasts: Summary (Table)
2022-02-11 09:00:00.3 GMT

By Mark Evans
(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	101.6	101.7	100.1	98.9	100.2	98.7	96.2	94.1	100.6	97.4
Total OECD	46.7	46.8	45.8	45.6	46.5	45.7	44.0	42.3	46.2	44.6
Americas	25.1	25.4	25.0	24.4	24.8	24.7	24.3	22.7	25.0	24.1
Europe	13.7	14.0	13.5	13.2	13.9	13.8	12.6	11.9	13.6	13.1
Asia Oceania	7.9	7.4	7.3	8.0	7.8	7.1	7.0	7.7	7.7	7.4
Non-OECD countries	54.9	54.8	54.3	53.3	53.8	53.0	52.2	51.9	54.3	52.7
FSU	5.1	5.1	4.8	4.7	5.0	4.9	4.7	4.6	4.9	4.8
Europe	0.8	0.8	0.8	0.7	0.7	0.8	0.7	0.7	0.8	0.8
China	16.1	16.2	16.1	15.5	15.7	15.7	15.7	15.0	16.0	15.5
Other Asia	14.2	13.5	14.0	14.0	13.7	12.6	12.9	13.5	13.9	13.1
Americas	6.2	6.2	6.0	5.9	6.1	6.2	5.9	5.8	6.0	6.0
Middle East	8.4	9.0	8.5	8.4	8.4	8.9	8.4	8.2	8.6	8.5
Africa	4.2	4.1	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	n/a	98.1	96.5	94.2	92.4	n/a	95.3
Non-OPEC	67.6	67.3	66.3	65.3	65.1	64.3	63.5	61.9	66.6	63.7
Total OECD	30.4	29.9	29.5	29.4	29.3	28.3	27.8	27.4	29.8	28.2
Americas	26.4	26.0	25.7	25.4	25.4	24.4	24.3	23.3	25.9	24.3
Europe	3.5	3.4	3.3	3.5	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	31.9	31.7	31.3	31.2	30.8	30.5	30.5	30.2	31.5	30.5
FSU	14.8	14.6	14.5	14.4	14.3	13.7	13.7	13.4	14.6	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	4.1	4.1	4.1	4.0	4.1	4.1	4.1	4.1	4.1
Other Asia	2.7	2.7	2.8	2.8	2.8	2.8	2.9	3.0	2.7	2.9
Americas	5.7	5.6	5.4	5.3	5.2	5.4	5.3	5.3	5.5	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	2.4	2.4	2.4	2.4	2.3	2.3	2.2	2.1	2.4	2.3
Total OPEC	n/a	n/a	n/a	n/a	33.0	32.1	30.7	30.4	n/a	31.6
Crude	n/a	n/a	n/a	n/a	27.7	26.9	25.5	25.3	n/a	26.4
Natural gas liquids NGLs	5.5	5.5	5.4	5.3	5.2	5.2	5.2	5.2	5.4	5.2
Call on OPEC crude and stock change *	28.5	28.9	28.4	28.3	29.9	29.2	27.5	27.1	28.5	28.4

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: January Crude Oil Production in OPEC Countries (Table)
2022-02-11 09:00:00.5 GMT

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

	Jan. 2022	Dec. 2021	Jan. MoM
Total OPEC	28.10	27.97	0.13
Total OPEC10	23.93	23.62	0.31
Algeria	0.98	0.97	0.01
Angola	1.19	1.15	0.04
Congo	0.26	0.26	0.00
Equatorial Guinea	0.09	0.09	0.00
Gabon	0.18	0.21	-0.03
Iraq	4.25	4.29	-0.04
Kuwait	2.57	2.55	0.02
Nigeria	1.38	1.21	0.17
Saudi Arabia	10.10	10.01	0.09
UAE	2.93	2.88	0.05
Iran	2.50	2.50	0.00
Libya	0.99	1.05	-0.06
Venezuela	0.68	0.80	-0.12

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

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IEA REPORT WRAP: Oil Demand Estimates Boosted by Data Revision
2022-02-11 09:39:29.816 GMT

By Stephen Voss
(Bloomberg) -- Summary including stories from IEA's monthly
Oil Market Report on Friday:
* IEA warns OPEC+ supply shortfall may propel prices higher
** Oil demand est. increased significantly for both 2021, 2022
** 2022 demand boosted by 0.9m b/d; biggest gain was for 1Q
** Almost all of change was due to Saudi, China baseline revisions
** 2022 world demand was revised to 100.6m b/d; growth 3.3% y/y
** Oil market to shift to surplus in 2022 despite higher demand
** Non-OPEC supply est. for 2022 raised by 0.1m b/d
* Click here for summary of key IEA supply/demand forecasts
* OPEC output rose 130k b/d in Jan., led by Mideast, Nigeria:

IEA
** Even with increase, OPEC-10 stayed well under its January target rate
** See full table
* Compliance with pledged target cutbacks in January:
** OPEC 129%; non-OPEC 123%; combined OPEC+ 19 nations 127%
** Saudi Arabia 103%, Russia 109%
* Sanctions on Russian oil 'looks remote' chance, IEA says
* IEA revises 15 years of demand history on China, Saudi data
* U.S. made 'visible progress' on SPR oil release
* Refinery runs further off pre-Covid levels than oil demand
* Gas prices added 250k-300k b/d to Europe's oil demand in 4Q
* Market has more flexibility to limit extreme oil price rise
* Supertankers to benefit from planned Mideast oil output
* TABLE: IEA's quarterly supply/demand forecasts
* NOTE: OPEC issued its own monthly report Feb. 10, saying there's upside potential for oil demand
* NOTE: The OPEC+ alliance is continuing with its plan to revive oil output halted during the pandemic, in monthly increments. Its next meeting is on March 2

--With assistance from Olga Tanas, Dina Khrennikova, Amanda Jordan, Jack Wittels, Brian Wingfield, Sherry Su, Grant Smith and Julian Lee.
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OPEC+ Supply Shortfall May Push Oil Price Higher, IEA Warns (1)
2022-02-11 09:47:18.219 GMT

By Grant Smith
(Bloomberg) -- Global oil prices could climb further because of the OPEC+ coalition's "chronic" struggle to revive production, unless the group's Middle Eastern heavyweights pump extra to compensate, the International Energy Agency warned. Crude has rallied to a seven-year high above $90 a barrel as demand bounces back from the pandemic while supplies around the world lag behind. Plagued by under-investment and disruptions, the 23-nation OPEC+ alliance has been unable to

fully restore the output it halted -- a problem the IEA expects to worsen.

With oil inventories at the lowest in seven years, the agency sees markets facing further strain.

"The oil market is incredibly tight," Toril Bosoni, head of the agency's markets and industry division, said in a Bloomberg television interview on Friday. "Prices continue to surge and are now reaching levels that are uncomfortable for consumers across the world."

By the end of the year, the shortfall between the amount of oil OPEC+ was supposed to have pumped and what it actually delivered since the start of 2021 could amount to 1 billion barrels, the IEA estimates. Rising prices have been an acute source of pain for major economies, fanning a surge in inflation and inflicting a cost-of-living crisis on millions.

"If the persistent gap between OPEC+ output and its target levels continues, supply tensions will rise, increasing the likelihood of more volatility and upward pressure on price," the Paris-based agency said in its monthly report.

Still, the economic shock could be averted if those members of the Organization of Petroleum Exporting Countries that possess extra reserves deploy them.

"These risks, which have broad economic implications, could be reduced if producers in the Middle East with spare capacity were to compensate for those running out," the agency said.

Saudi Arabia, OPEC's de facto leader, holds the bulk of the group's spare capacity. It has so far resisted the idea of tapping those reserves more quickly, contending that the individual quotas set by the OPEC+ agreement should be respected.

Despite the IEA's warnings, its forecasts still indicate that world oil markets will tip back into surplus for the rest of this year as supplies outside of OPEC+ pick up. The agency revised up its forecast for U.S. oil supply growth in 2022 by 240,000 barrels a day to 1.2 million barrels a day.

The agency also made substantial increases to its historic demand estimates for the past few years, with an upgrade of 1 million barrels a day for 2021. The revision helps account for a discrepancy between the IEA's theoretical estimate of changes in stockpiles and what could be detected.

--With assistance from Francine Lacqua.

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IEA World Oil Supply/Demand Key Forecasts
2022-02-11 09:00:00.6 GMT

By Mark Evans
(Bloomberg) -- World oil demand 2022 fcast was revised to 100.6m b/d from 99.7m b/d in Paris-based Intl Energy Agency's latest monthly report.
* 2021 world demand was revised to 97.4 from 96.4m b/d
* Demand change in 2022 est. 3.3% y/y or 3.2m b/d
* Non-OPEC supply 2022 was revised to 66.6m b/d from 66.5m b/d
* Call on OPEC crude 2022 was revised to 28.5m b/d from 27.8m b/d
* Call on OPEC crude 2021 was revised to 28.4 m b/d from 27.5m b/d
** OPEC crude production in Jan. rose by 130k b/d on the month to 28.10m b/d
* Detailed table: FIFW NSN R74S21GFFW8W <GO>
* NOTE: Fcasts based off IEA's table providing one decimal point

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OPEC Output Rose 130k B/D in Jan., Led by Mideast, Nigeria: IEA
2022-02-11 09:00:00.1 GMT

By Amanda Jordan
(Bloomberg) -- OPEC's January crude production climbed by 130k b/d from a month earlier to 28.1m b/d, with gains in the Middle East and Nigeria offsetting losses in Venezuela and Libya, the IEA said in its monthly report.
* Saudi Arabia produced 10.1m b/d, up 90k b/d vs December
* UAE supply rose by 50k b/d to 2.93m b/d
* Output in Kuwait inched up to 2.57m b/d

* Supply from Iraq fell, sliding 40k b/d to 4.25m b/d
* In Nigeria, supply recovered to 1.38m b/d, up 170k b/d
* Output in Libya -- exempt from OPEC+ cuts -- dropped 60k b/d to 990k b/d, the lowest since October 2020, amid pipeline maintenance and bad weather
* Supply from Venezuela, also exempt, fell 120k b/d to 680k b/d
* OPEC's compliance with the OPEC+ output-cuts deal was 129% in January
* NOTE: On Thursday, OPEC released its own production data, saying its 13 members increased output by just 64k b/d last month, rather than the scheduled 250k b/d

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IEA Says Potential for Sanctions on Russian Oil 'Looks Remote'
2022-02-11 09:00:00.31 GMT

By Olga Tanas and Dina Khrennikova
(Bloomberg) -- The potential for sanctions on Russia's oil exports amid the crisis over Ukraine "looks remote," the IEA said in its monthly report, citing "current high prices and the scale of the impact on markets." Yet an escalation of tensions could disrupt flows, it said.
* Of the ~2.5m b/d of Russian crude imported by Europe last year, one-third was delivered via the Druzhba pipeline
** The supplies "most immediately at risk" are ~250k b/d of oil transiting Ukraine via Druzhba's southern branch to Hungary, Slovakia and the Czech Republic
** If those flows were interrupted, those countries "would have to draw on emergency oil stocks and seek alternative supplies"
* Russia's crude-only output rose by 60k b/d to 10.04m b/d in January, below its OPEC+ target of 10.12m b/d, IEA data show
** NOTE: Total crude and condensate production reached 11m b/d last month, according to Bloomberg calculations based on data from the Russian Energy Ministry's CDU-TEK unit
*** CDU-TEK doesn't provide a breakdown between crude and condensate, which is excluded from the OPEC+ agreement
* Russia's compliance with the OPEC+ deal rose to 109% in

January, the second month that the nation pumped below its quota
** NOTE: Russia's December compliance was 107%
* Russia's spare production capacity estimated at 190k b/d vs January
* READ, Jan. 18: Russia Seen Struggling to Keep Pace With OPEC+ Supply Hikes

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IEA Revises 15 Years of Oil Demand History on China, Saudi Data
2022-02-11 09:00:00.7 GMT

By Julian Lee
(Bloomberg) -- Oil demand was higher than previously thought in each of the past 15 years, with estimates driven up by new assessments of consumption in Saudi Arabia and China, the IEA said in its latest monthly report.
* As a result of the changes, the IEA has raised its estimates of global oil demand by 0.6m b/d in 2018, 0.8m in 2019, 0.9m in 2020, 1m in 2021 and increased its forecast for 2022 by 0.9m b/d
* "Together, these revisions result in a tighter balance than previously reported, more aligned with available data for oil stocks and already reflected in the oil price and forward structure"
* Demand in Saudi Arabia has been increased by as much as 550k b/d all the way back to 2007 after revisions to historical estimates of LPG consumption in the petrochemical sector
* China's demand was increased by 360k b/d in 2019 and subsequent years to account for "discrepancies in refinery inputs and reported product outputs in annual statistics"
** The IEA says the missing refinery output mostly reflects higher feedstock use within integrated petrochemical complexes and refineries
* READ: Dude, Where's My Oil? (And Why Is It So Expensive?): Julian Lee

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U.S. Has Made 'Visible Progress' on SPR Oil Release, IEA Says
2022-02-11 09:00:00.2 GMT

By Brian Wingfield
(Bloomberg) -- The U.S. has concluded agreements on 40m bbl of its planned 50m bbl release of oil from strategic reserves in response to higher prices, the International Energy Agency said in its monthly report.
* It plans to have the remaining 10m bbl "sold imminently and released in the coming months"
* Of volumes already released, 13m bbl was delivered over Dec.-Jan.
* Release split into various exchange contracts and a sale of 18.1m bbl
** Six companies procured oil from the sale; it will be delivered between Feb. 1-March 31
** About two-thirds of the contracts have been awarded for the exchange; the oil will be returned between 2022-2024
* Last November, the U.S., China, India, Japan, the U.K. and South Korea pledged to release oil from strategic reserves to combat rising prices
** Details on China's planned release have been scarce; no major change in inventory levels have been observed in satellite data

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Refinery Runs Further Off Pre-Covid Levels than Oil Demand: IEA
2022-02-11 09:00:00.30 GMT

By Jack Wittels
(Bloomberg) -- Refinery runs are lower vs pre-pandemic levels than is the requirement for refined products, according to the IEA's monthly oil market report.
* In 1Q, global refinery throughputs are estimated at 79.9m b/d, which is -2.1m b/d vs same period in 2019
** Meanwhile, "the call on refined products is only 1.2m b/d lower"
** IEA sees total oil products demand for 2022 surpassing 2019 level, while total refinery crude throughputs are lower
* While revisions to global demand have been partially offset by higher refinery throughput estimations, "our view of global product balances, historical and forecasts, has tightened"
* Global refining system lost 2.8m b/d of capacity in 2020-21, mostly from operating plants in the U.S., Europe and Asia
** Bulk of new capacity projected for 2022 will not materialize until 2H

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Gas Prices Added 250-300K B/d to Europe's Oil Demand in 4Q: IEA
2022-02-11 09:00:00.21 GMT

By Jack Wittels
(Bloomberg) -- Higher natural gas prices lifted Europe's fourth-quarter oil demand by 250-300k b/d compared with normal seasonal levels, the IEA estimated in its monthly oil market report.
* That comprised about 200k b/d gasoil, 30k b/d fuel oil and 50k b/d in other products
* Estimates an increase of 50-100k b/d in OECD Asia due to fuel switching
** "In other countries, such as Brazil, China and India, low precipitation and tensions in the coal market provided some support to gasoil demand although the impact is more difficult to identify"
* Weather in the U.S. also supported demand in January,

according to preliminary data, the IEA said
** Cold snap in the northeast contributed to extra demand for LPG and gasoil compared with normal seasonal increases
** LPG +30k b/d, gasoil +170k b/d
** "Natural gas pipeline capacity constraints, limited LNG availability and a surge in demand for heating also boosted fuel oil use in electricity generation by 80k b/d"

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Market Has More Flexibility to Limit Extreme Oil Price Rise: IEA
2022-02-11 09:00:00.8 GMT

By Sherry Su
(Bloomberg) -- The global oil market may not replay the historical rally of 2008 despite the similar rises in crude prices and middle distillates cracks in recent months, the IEA said in its monthly Oil Market Report.
* "While similarities with 2007-08 are present, there is certainly more flexibility in the global oil market today to limit extreme price action"
* The record oil prices in 2008 were caused by robust diesel demand growth after mandating of ultra-low sulfur diesel in many OECD countries, constraints in desulfurisation capacity and declines in light, sweet production in the North Sea and U.S.
* But this time the market is different. Even as diesel cracks have tripled from the 2H20-1H21 levels, they are only back to pre-pandemic levels of 4Q 2019, still well below historical records, according to the IEA
* "There is no apparent outright lack of desulfurisation capacity and natural gas costs should drop back after the end of heating season in the northern hemisphere"
** Sweet crude supply is set to grow this year, with higher output in the U.S. and Brazil

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Supertankers to Benefit From Planned Mideast Oil Output: IEA
2022-02-11 09:00:00.24 GMT

By Brian Wingfield
(Bloomberg) -- Freight rates for VLCCs are set to benefit from "growth of almost 3m b/d in Middle East crude production this year," the IEA says in its monthly report.
* "Continued stagnation expected in West African crude production in the coming months will pressure Suezmax and Aframax rates"
* Few tankers are covering their operating expenses at current freight rates
* Global tanker activity declined by about 3% m/m in January; almost 3% below a year ago and 6% below 2019
* Satellite data from Kayrros show crude stocks in Middle East and sub-Saharan Africa rose by combined 700k b/d in January, "somewhat starving the freight market of chartering activity in its principal loading zones"

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https://time.com/6145137/saudi-arabia-energy-minister-prince-abdulaziz-bin-salman-interview/

Despite Saudi Arabia's Net-Zero Goals, Its Energy Minister Says It Will Pump More Oil

Generation Now: The Fight for Climate Justice

BY **VIVIENNE WALT**

FEBRUARY 6, 2022 7:00 AM EST

(To receive weekly emails of conversations with the world's top CEOs and business decisionmakers, click here.)

From his spacious offices in Riyadh, Saudi Arabia's energy minister Prince Abdulaziz Bin Salman believes he has a bird's eye view on the global energy transition—a momentous shift on which the kingdom's climate policies could have a major impact, for good or bad. As the world's biggest oil exporter, Saudi Arabia produces more than 9 million barrels a day, and has 15% of the entire world's oil reserves.

That massive output is unlikely to slow, even though the titular leader, Crown Prince Mohammed Bin Salman, or MBS, claims to want his country to go green, and zero out its carbon emissions by 2060. In fact, over tea in Riyadh, Abdulaziz told *TIME*'s Vivienne Walt that the state-owned oil giant Saudi Aramco will begin pumping far more oil, increasing its grip on global supplies, as Western countries and international energy companies try to curb fossil fuels.

It's a canny calculation, and Abdulaziz, in his 60s, has the clout to see it through. He was appointed in 2019 by his hugely powerful (and much younger) half-brother, MBS. And at 36, MBS could rule for decades, if he prevails in the bitter palace battle to succeed his ailing father, King Salman, 86.

Abdulaziz insists Saudi Arabia can roll out multibillion-dollar solar, wind, and hydrogen projects at home, even while remaining a giant oil producer. Choosing between the two is absurd, he says, and those who predict the inevitable decline of fossil fuel use are "living in a fantasy land."

The planet's health could rest on which side is proved correct.

(This interview has been condensed and edited for clarity.)

Saudi Arabia is investing billions in green energy, and it has declared a net-zero target of 2060. That seems a real contradiction for a big oil power.

We have been working on what we call the "circular carbon economy," about how to achieve net zero. We want to reduce our emissions by a good number. We can become more efficient, by installing insulation for buildings, by having more efficient standards for industry, and so on. And we can take the CO2 that was committed to the atmosphere and use it in a valuable application, say for a food or beverage company, as a valuable product, so it becomes a material, instead of discarding it. Sequestering it is good. Using it is even better. Otherwise you would have to dump it somewhere.

We like the transition. If I can sell you the oil or gas that we have, and the carbon emissions will be handled, why should you confine yourself to a choice or two? You should keep your choices open, so that you mitigate the concerning issue, which is carbon emissions.

Your critics point out that your net-zero plan relies heavily on carbon capture and sequestration, or CCS, which is an uncertain technology.
Equally, other choices talked about are not developed yet. They still have huge uncertainties.

You're producing about 10 million barrels of oil a day. Do you see that level of production continuing, even through the global energy transition?
We believe oil consumption will continue to grow. The demand for oil will continue growing. At what level, I do not know, because the jury is out. Anyone who tells you that they have a good grasp of where and when and how much is certainly living in a fantasy land. We are human, and we could prove to be wrong, but that is exactly what we believe.
That is why we have now come to the decision to go to 13 [million barrels a day]. That decision was actually made in March 2020, when we had negative prices. [*Ed. note: World oil market prices fell below zero in April 2020, as worldwide pandemic lockdowns collapsed demand.*] A week before that negative price, on behalf of the government in this ministry, we sent a letter to Aramco saying, 'Go for 13.'
Any normal person would say, 'How on Earth can you decide this?' And I would tell it simply: You know, with these low oil prices, production will be curtailed. Investment will be curtailed. And by us advancing our program of expansion, we stand a better chance of capturing that market.
We are targeting our production capacity to become 13.4, 13.5 million barrels a day by 2027.
Last year, when the International Energy Agency [the multigovernmental IEA, based in Paris] called for a halt to oil and gas investments, and said fossil fuels would steadily decline, you called it the sequel to the movie *La La Land*.
It was a good movie, a fun movie. But it's something you watch for two hours and move on. You go back to reality. That scenario requires that we get into the *modus operandi* of being in a movie for the rest of our lives. It does not give you the certainty of how you are going to serve the generations to come.
So do you believe the world will keep using more and more fossil fuels?
We see the numbers. They are not our numbers. They are the United Nations' numbers. Three billion people lack any meaningful energy source, any clean energy, just for cooking. These people use biomass, everything, to burn, including cutting trees. Just to get through the day, they expose themselves to all sorts of hazards, including sickness and even death. For $500 million you would be able to give energy to 750 million people, in order to cook using clean energy, using propane energy, giving them a stove. [*Ed. note: TIME was unable to replicate the calculation to support this claim.*]
How can you go to these countries and start talking about climate change, emissions reductions, sustainability, diversification, when their basic needs are not there? We have not yet talked about education, housing, health care, transportation.
While I see the point for the developed world to see this as a serious priority, that doesn't take into account those who are way down the ladder. You need to bring them up that level to be able to see.

The 2060 goal that the Crown Prince announced last October, before the COP26 talks in Glasgow, is only for your internal consumption. It doesn't touch exports, which is most of your production.

We are not in control of how others will be mitigating their consumption. The question is, who is going to use that oil, and for what purpose? What can the person using that gasoline or diesel use it for, and with what kind of technology? This goes beyond the jurisdiction of a product.

With the evolution of technologies like carbon sequestration, it would allow us to achieve net zero before 2060. However, if the alternative happens, which is the closure of markets to oil, and if there is no progress in technologies, then our emissions would increase, and then net zero would take us even longer than 2060.

Correction, 2/7:

The original version of this story mischaracterized a metric cited by Prince Abdulaziz Bin Salman. He claimed that $500 million worth of oil could provide energy to 750 million people, not 500 million barrels of oil.

https://www.spa.gov.sa/viewstory.php?lang=en&newsid=2328223

Custodian of the Two Holy Mosques Receives Telephone Call from President of the United States of America

Wednesday 1443/7/8 - 2022/02/09

Riyadh, February 09, 2022, SPA -- The Custodian of the Two Holy Mosques King Salman bin Abdulaziz Al Saud received a telephone call from President Joseph R. Biden of the United States of America.

During the call, the two leaders reaffirmed the historic and strategic partnership between the Kingdom and the United States, and the need to solidify and strengthen cooperation to promote both countries' interests, and achieve stability in the region and the world.

The Custodian of the Two Holy Mosques underscored the importance of strengthening mutual security cooperation to confront terrorism and its financing.

The Custodian of the Two Holy Mosques commended H.E the President for expressing the United States' commitment to support the Kingdom in its defense of its lands and citizens. The Custodian of the Two Holy Mosques praised the United States for standing with the Kingdom and meeting its defensive needs, which will increase efforts to preserve security and stability in the Kingdom and the region. His Majesty cited the Kingdom's support to efforts by the United States to prevent Iran from obtaining nuclear weapons, and stressed the need to work together to counter the destabilizing activities of Iran's proxies in the region. The Custodian of the Two Holy Mosques affirmed that the Kingdom is committed to deescalating tensions in the region and promoting dialogue.

The Custodian of the Two Holy Mosques expressed the Kingdom's resolve in reaching a comprehensive political resolution in Yemen, and its efforts to bring prosperity and security for the Yemeni people, referring to the Kingdom's continuing humanitarian aid and reconstruction efforts.

Regarding energy and oil markets, the Custodian of the Two Holy Mosques stressed the importance of maintaining balance and stability in the oil markets, highlighting the role of the historic OPEC Plus agreement in this regard, and the importance of maintaining the agreement.

--SPA 23:50 LOCAL TIME 20:50 GMT

https://www.whitehouse.gov/briefing-room/statements-releases/2022/02/09/readout-of-president-joseph-r-biden-jr-s-call-with-king-salman-bin-abdulaziz-al-saud-of-saudi-arabia/

Readout of President Joseph R. Biden, Jr.'s Call with King Salman bin Abdulaziz Al-Saud of Saudi Arabia

FEBRUARY 09, 2022•STATEMENTS AND RELEASES

President Joseph R. Biden, Jr. spoke today with King Salman bin Abdulaziz al-Saud of Saudi Arabia to discuss regional developments and issues of mutual concern, including Iranian-enabled attacks by the Houthis against civilian targets in Saudi Arabia. The President underscored the U.S. commitment to support Saudi Arabia in the defense of its people and territory from these attacks and full support for UN-led efforts to end the war in Yemen. The President noted his commitment to ensuring that Iran can never obtain a nuclear weapon and briefed the King on ongoing multilateral talks to reestablish constraints on Iran's nuclear program. The two leaders discussed matters pertaining to the Middle East region and Europe and agreed that their teams would remain closely coordinated over the coming weeks and months. Both leaders further reiterated the United States' and Saudi Arabia's commitment to ensuring the stability of global energy supplies.

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https://www.aljazeera.com/news/2022/2/9/yemens-war-explained-in-maps-and-charts-interactive

Yemen's war explained in maps and charts

How strong are the Houthis? And how have seven years of war affected Yemen? Key questions answered, in seven graphics.

By Mohammed Haddad

Published On 9 Feb 20229 Feb 2022

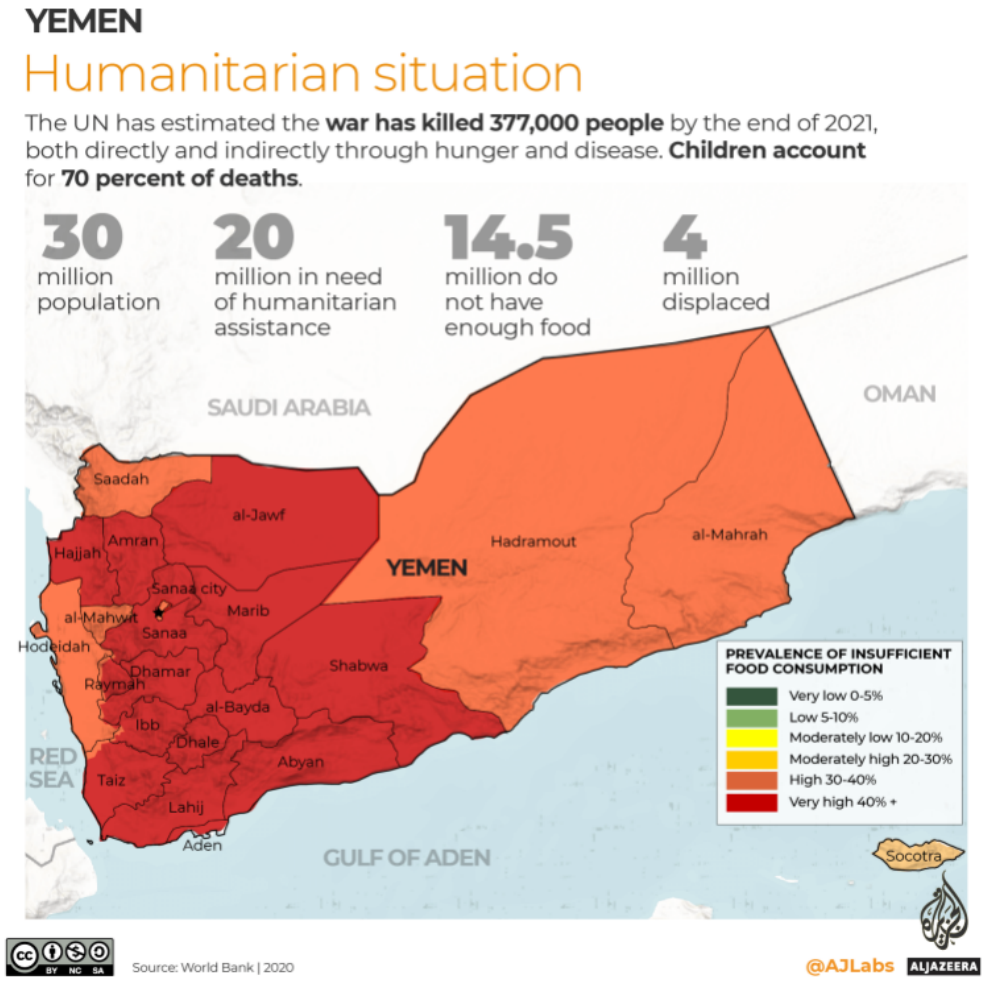
Yemen is facing one of the world's worst humanitarian crises as its brutal war enters its eighth year.

The UN estimates the war has killed 377,000 people as of the end of 2021, both directly and indirectly through hunger and disease – with 70 percent of those deaths being children.

Nearly half the country (14.5 million) of 30 million people does not have enough food, according to the World Food Programme.

Nearly half (47.5 percent) of children under five face chronic malnutrition.

At least 4 million people have been displaced by the seven years of war.



Key players in the conflict

In March 2015, a Saudi-led coalition – backed by the United States – intervened militarily in Yemen in a bid to fight the Iran-backed Houthi rebels, restore President Abd-Rabbu Mansour Hadi's government, and reverse what they say is growing Iranian influence in the region.

The Houthi armed group made international headlines after seizing control of Saada province in early 2014. They later moved southwards to seize the capital Sanaa and demanded constitutional change and power-sharing with the government. This forced Yemen's Hadi to flee his presidential palace in Aden for Saudi Arabia.

Amid the instability, several other armed groups emerged, including al-Qaeda in the Arabian Peninsula (AQAP), the UAE-backed separatist Southern Transitional Council (STC), and others.

The Houthis – also known as Ansar Allah – are a movement of mostly Zaidi Shia Muslims from northern Yemen who opposed Hadi's government and are believed to be supported by Iran.

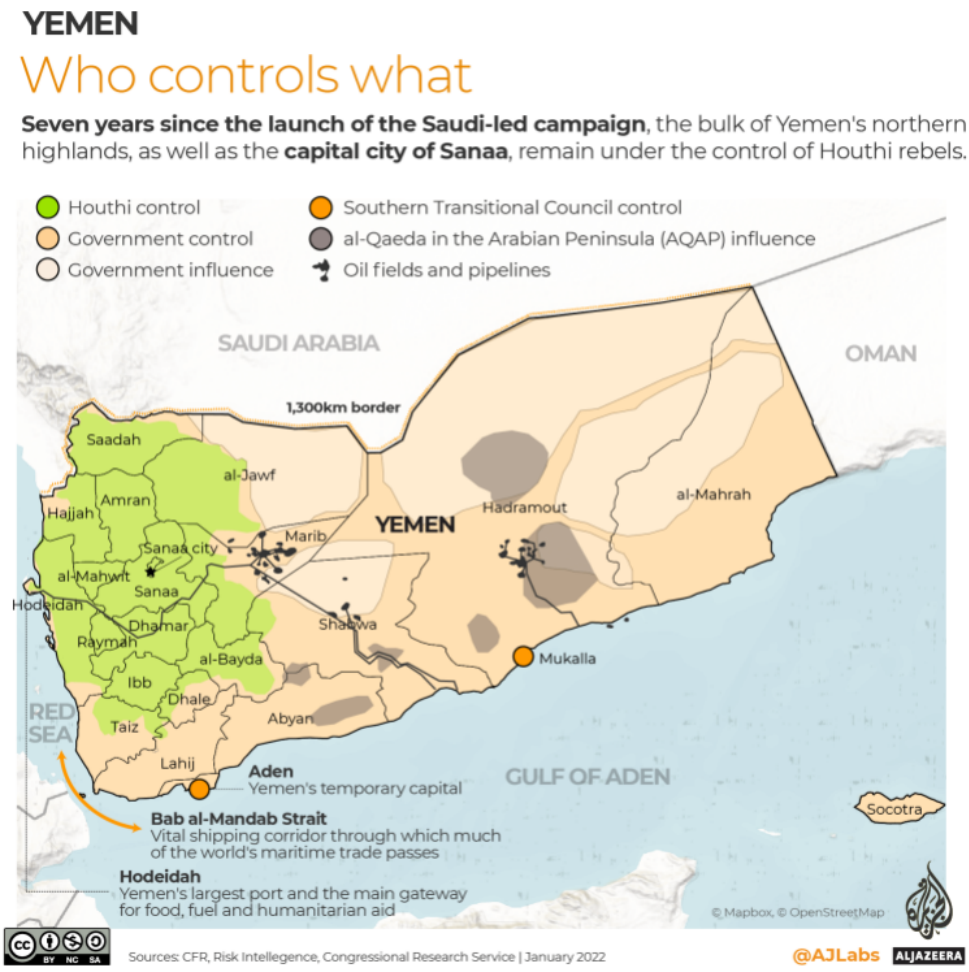
Years of UN-brokered peace talks have failed to break the deadlock.

Who controls what in Yemen?

Seven years since the launch of the Saudi-led campaign, the bulk of Yemen's northern highlands, as well as Sanaa, remain under the control of Houthi rebels.

The mountainous country between the Horn of Africa and the Middle East shares a 1,300km (800-mile) border with Saudi Arabia. Along its west coast is the Bab el-Mandeb Strait ("Gate of Tears" in Arabic), a vital shipping corridor through which much of the world's maritime trade passes.

In the south is the port city of Aden, which was captured by the STC in 2019. Aden is the temporary home of Yemen's internationally recognised government.

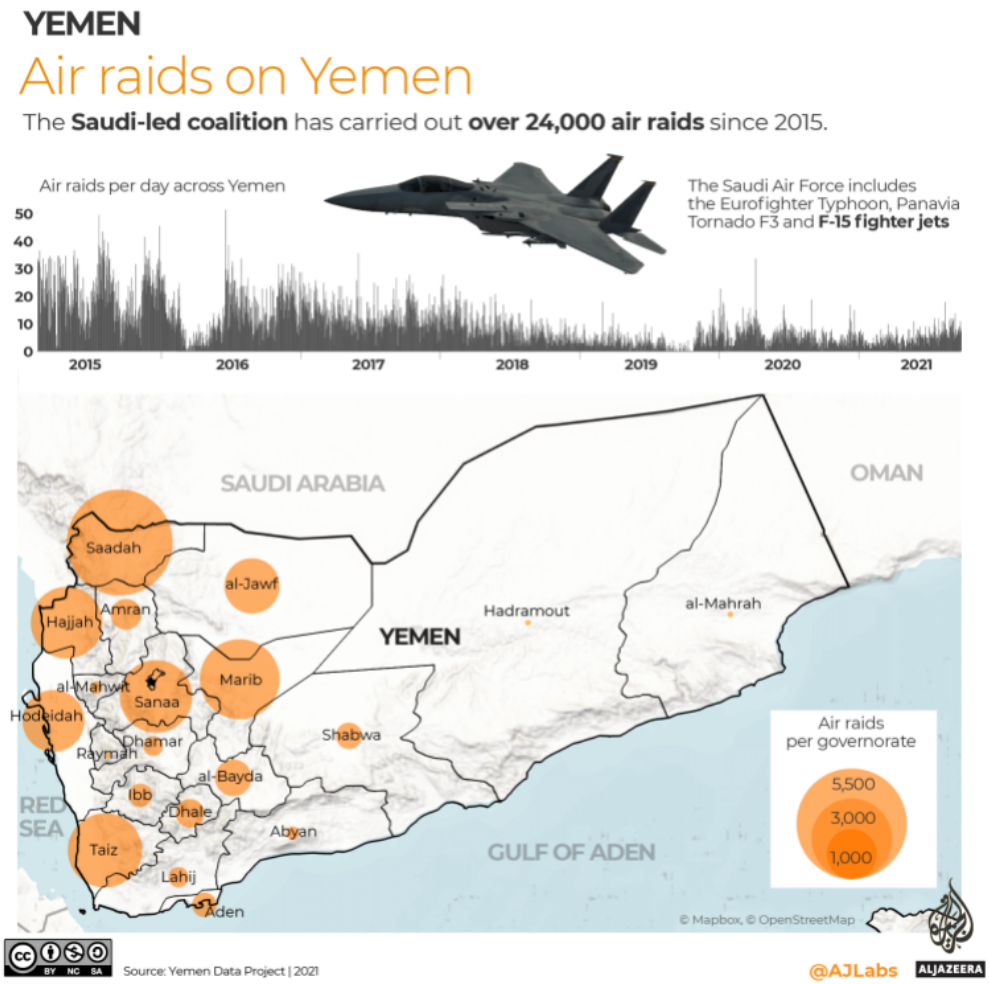


Air raids on Yemen

The Saudi-led coalition has carried out more than 24,000 air raids since 2015, according to data collected by the Yemen Data Project. Nearly two-thirds of these raids have struck non-military or unknown targets.

When the aerial campaign commenced on March 26, 2015, expectations were high that the coalition assembled by Saudi Crown Prince Mohammed bin Salman would defeat the alliance of Houthi rebels and army forces loyal to late President Ali Abdullah Saleh within weeks.

Since 2015, human rights group Amnesty International has investigated dozens of air attacks across Yemen and found many instances where civilians were killed with US-made bombs.



Attacks on Saudi Arabia and the UAE

Over the years, Houthi rebels have targeted strategic infrastructure across Saudi Arabia and the UAE, including airports, gas fields and oil tankers in the Red Sea.

In recent weeks, tensions escalated as the Houthis started launching drone and missile attacks on the UAE – a member of a Saudi-led coalition.

According to a data analysis by the Center for Strategic and International Studies (CSIS), Saudi Arabia's military has intercepted more than 4,000 Houthi missiles, drones and other standoff weapons over the past five years.

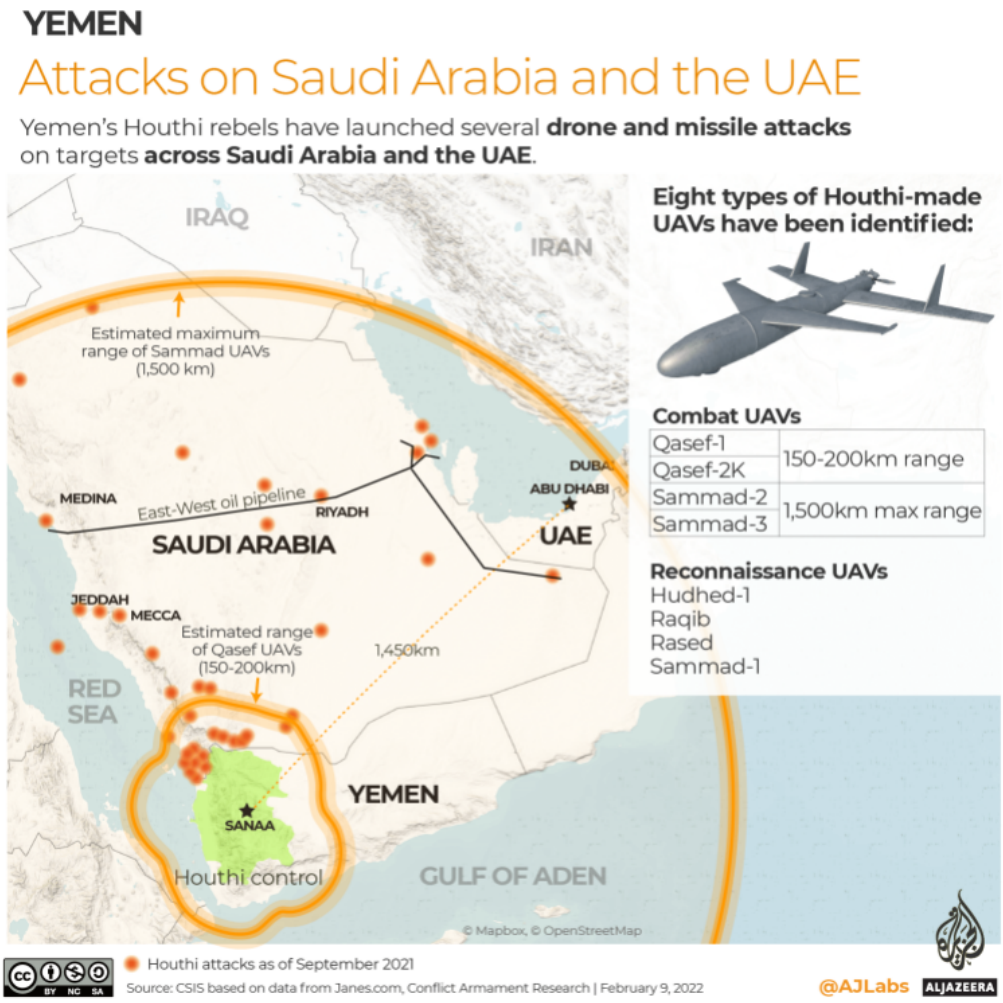
In response, the coalition has stepped up attacks in Saada province, northern Yemen and the Houthi-controlled capital, Sanaa.

According to the Conflict Armament Research group, eight types of Houthi-made drones, or unmanned aerial vehicles (UAVs), have been identified:

Combat UAVs: Qasef-1, Qasef-2K, Sammad-2, Sammad-3

The Qasef drones are estimated to have a range of 150-200km (93-124 miles) while the more advanced Sammads have an estimated maximum range of 1,500km (932 miles) – enough to reach the UAE from Houthi-controlled areas of Yemen.

Reconnaissance UAVs: Hudhed-1, Raqib, Rased and Sammad-1



On February 2, a little-known armed group in Iraq calling themselves Alwiyat al-Waad al-Haq (AWH), or the True Promise Brigades, claimed to have launched an attack on Abu Dhabi – suggesting the UAE is now being targeted from north and south.

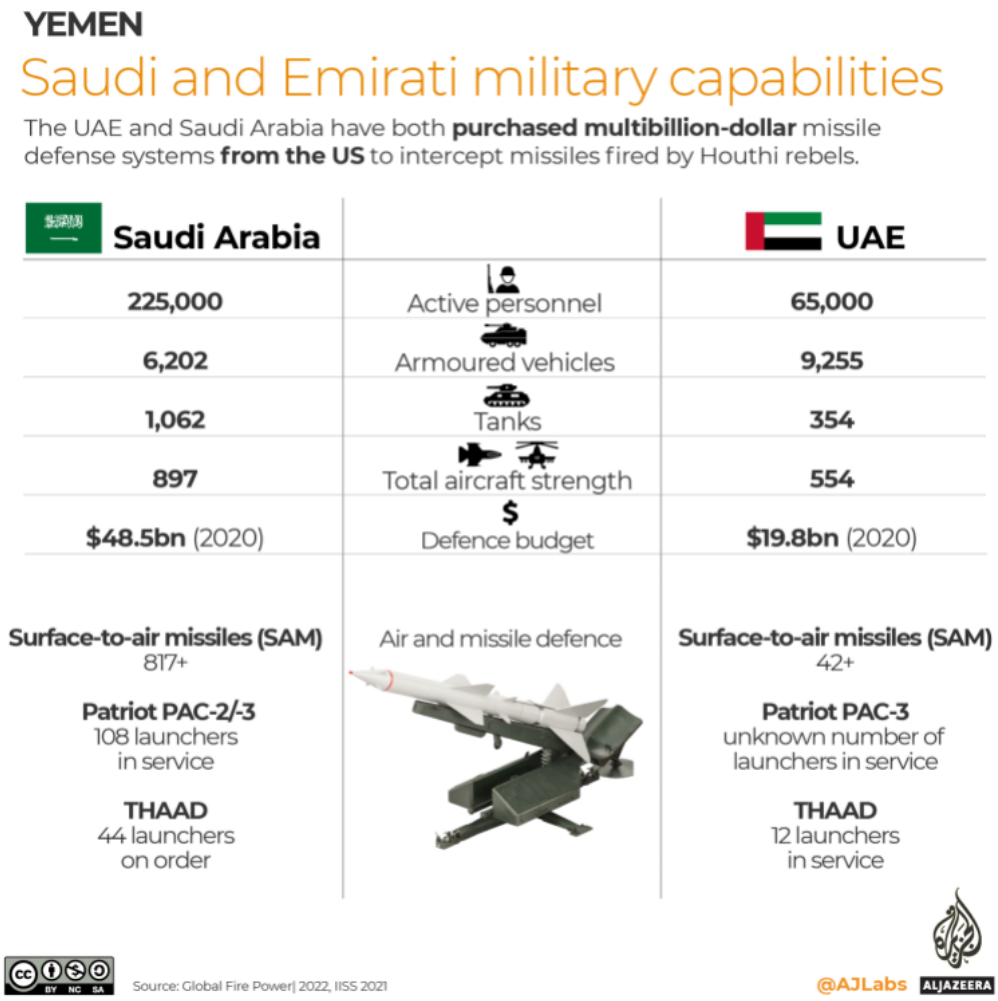
Following the attacks, the US confirmed that it will bolster the UAE's defences and send a guided-missile warship and advanced fifth-generation fighter jets there. The UAE hosts about 2,000 US troops, who provide early-warning intelligence and collaborate on air defence.

Saudi and Emirati military capabilities

Saudi Arabia and the UAE have both purchased multibillion-dollar missile defence systems from the US.

On January 17, US Central Command chief General Kenneth "Frank" McKenzie confirmed that the THAAD (Terminal High Altitude Area Defense) was used in combat for the first time against Houthi missiles fired towards the UAE.

The US military has had a presence in the Gulf for decades and has thousands of troops as well as a sizeable navy presence across the region.



Saudi Arabia's military spending

Saudi Arabia is the world's largest arms importer. In 2020, the oil-rich kingdom spent $57.5bn – 8.4 percent of its gross domestic product – on its military, according to the Stockholm International Peace Research Institute (SIPRI) (pdf).

In 2021, the kingdom said it spent some $50bn on its armed forces and is planning to spend about $46bn in 2022.

The US provides Saudi Arabia with 79 percent of its weapons, followed by the UK with 9 percent and 4 percent from France (pdf). Saudi Arabia is also the main buyer of US, UK and Canadian weapons.

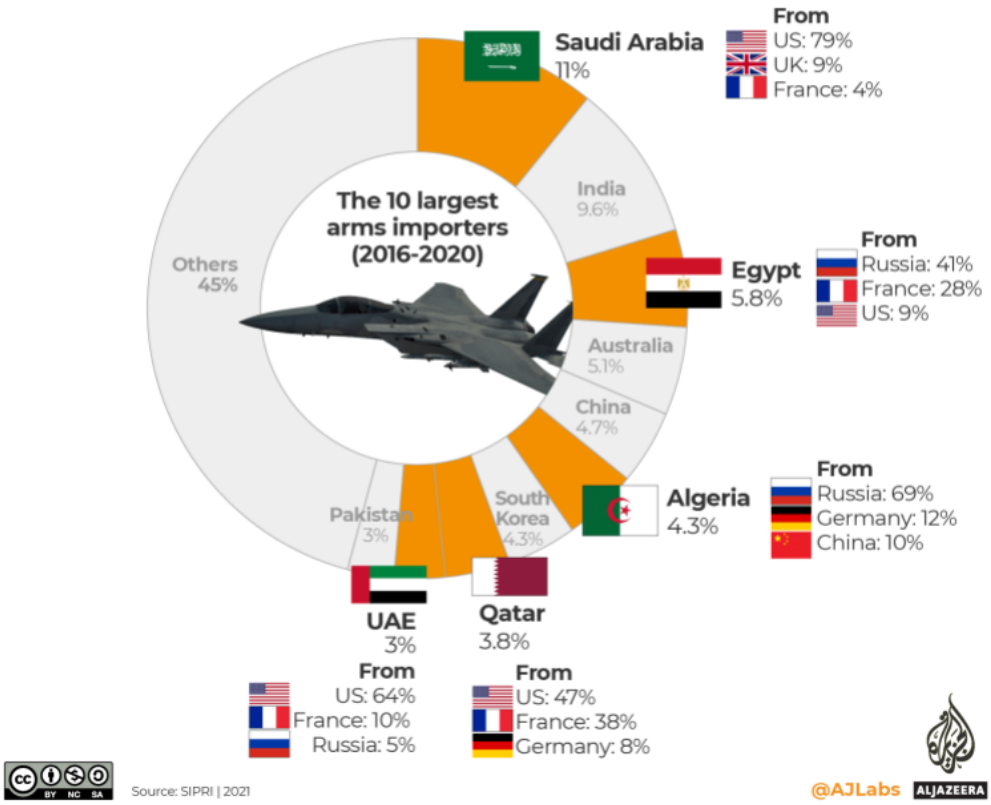
Between 2016 and 2020, nearly a quarter (24 percent) of the US's, 32 percent of the UK's and 49 percent of Canada's total arms exports were to Saudi Arabia.

According to SIPRI, about half (47 percent) of US arms transfers over the past 5 years were to the Middle East.

YEMEN

Middle-East military spending

Saudi Arabia is the world's largest arms importer. In 2021, the kingdom spent some **$50bn on its military**. About half of US arms transfers went to the Middle East.



SOURCE: AL JAZEERA

http://en.kremlin.ru/supplement/5770?s=08

Joint Statement of the Russian Federation and the People's Republic of China on the International Relations Entering a New Era and the Global Sustainable Development

February 4, 2022

At the invitation of President of the People's Republic of China Xi Jinping, President of the Russian Federation Vladimir V. Putin visited China on 4 February 2022. The Heads of State held talks in Beijing and took part in the opening ceremony of the XXIV Olympic Winter Games.

The Russian Federation and the People's Republic of China, hereinafter referred to as the sides, state as follows.

Today, the world is going through momentous changes, and humanity is entering a new era of rapid development and profound transformation. It sees the development of such processes and phenomena as multipolarity, economic globalization, the advent of information society, cultural diversity, transformation of the global governance architecture and world order; there is increasing interrelation and interdependence between the States; a trend has emerged towards redistribution of power in the world; and the international community is showing a growing demand for the leadership aiming at peaceful and gradual development. At the same time, as the pandemic of the new coronavirus infection continues, the international and regional security situation is complicating and the number of global challenges and threats is growing from day to day. Some actors representing but the minority on the international scale continue to advocate unilateral approaches to addressing international issues and resort to force; they interfere in the internal affairs of other states, infringing their legitimate rights and interests, and incite contradictions, differences and confrontation, thus hampering the development and progress of mankind, against the opposition from the international community.

The sides call on all States to pursue well-being for all and, with these ends, to build dialogue and mutual trust, strengthen mutual understanding, champion such universal human values as peace, development, equality, justice, democracy and freedom, respect the rights of peoples to independently determine the development paths of their countries and the sovereignty and the security and development interests of States, to protect the United Nations-driven international architecture and the international law-based world order, seek genuine multipolarity with the United Nations and its Security Council playing a central and coordinating role, promote more democratic international relations, and ensure peace, stability and sustainable development across the world.

I

The sides share the understanding that democracy is a universal human value, rather than a privilege of a limited number of States, and that its promotion and protection is a common responsibility of the entire world community.

The sides believe that democracy is a means of citizens' participation in the government of their country with the view to improving the well-being of population and implementing the principle of popular government. Democracy is exercised in all spheres of public life as part of a nation-wide process and reflects the interests of all the people, its will, guarantees its rights, meets its needs and protects its interests. There is no one-size-fits-all template to guide countries in establishing democracy. A nation can choose such forms and methods of implementing democracy that would best suit its particular state, based on its social and political system, its historical background, traditions and unique cultural characteristics. It is only up to the people of the country to decide whether their State is a democratic one.

The sides note that Russia and China as world powers with rich cultural and historical heritage have long-standing traditions of democracy, which rely on thousand-years of experience of development, broad popular support and consideration of the needs and interests of citizens. Russia and China

guarantee their people the right to take part through various means and in various forms in the administration of the State and public life in accordance with the law. The people of both countries are certain of the way they have chosen and respect the democratic systems and traditions of other States.

The sides note that democratic principles are implemented at the global level, as well as in administration of State. Certain States' attempts to impose their own ”democratic standards“ on other countries, to monopolize the right to assess the level of compliance with democratic criteria, to draw dividing lines based on the grounds of ideology, including by establishing exclusive blocs and alliances of convenience, prove to be nothing but flouting of democracy and go against the spirit and true values of democracy. Such attempts at hegemony pose serious threats to global and regional peace and stability and undermine the stability of the world order.

The sides believe that the advocacy of democracy and human rights must not be used to put pressure on other countries. They oppose the abuse of democratic values and interference in the internal affairs of sovereign states under the pretext of protecting democracy and human rights, and any attempts to incite divisions and confrontation in the world. The sides call on the international community to respect cultural and civilizational diversity and the rights of peoples of different countries to self-determination. They stand ready to work together with all the interested partners to promote genuine democracy.

The sides note that the Charter of the United Nations and the Universal Declaration of Human Rights set noble goals in the area of universal human rights, set forth fundamental principles, which all the States must comply with and observe in deeds. At the same time, as every nation has its own unique national features, history, culture, social system and level of social and economic development, universal nature of human rights should be seen through the prism of the real situation in every particular country, and human rights should be protected in accordance with the specific situation in each country and the needs of its population. Promotion and protection of human rights is a shared responsibility of the international community. The states should equally prioritize all categories of human rights and promote them in a systemic manner. The international human rights cooperation should be carried out as a dialogue between the equals involving all countries. All States must have equal access to the right to development. Interaction and cooperation on human rights matters should be based on the principle of equality of all countries and mutual respect for the sake of strengthening the international human rights architecture.

II

The sides believe that peace, development and cooperation lie at the core of the modern international system. Development is a key driver in ensuring the prosperity of the nations. The ongoing pandemic of the new coronavirus infection poses a serious challenge to the fulfilment of the UN 2030 Agenda for Sustainable Development. It is vital to enhance partnership relations for the sake of global development and make sure that the new stage of global development is defined by balance, harmony and inclusiveness.

The sides are seeking to advance their work to link the development plans for the Eurasian Economic Union and the Belt and Road Initiative with a view to intensifying practical cooperation between the EAEU and China in various areas and promoting greater interconnectedness between the Asia Pacific and Eurasian regions. The sides reaffirm their focus on building the Greater Eurasian Partnership in parallel and in coordination with the Belt and Road construction to foster the development of regional associations as well as bilateral and multilateral integration processes for the benefit of the peoples on the Eurasian continent.

The sides agreed to continue consistently intensifying practical cooperation for the sustainable development of the Arctic.

The sides will strengthen cooperation within multilateral mechanisms, including the United Nations, and encourage the international community to prioritize development issues in the global macro-policy coordination. They call on the developed countries to implement in good faith their formal commitments

on development assistance, provide more resources to developing countries, address the uneven development of States, work to offset such imbalances within States, and advance global and international development cooperation. The Russian side confirms its readiness to continue working on the China-proposed Global Development Initiative, including participation in the activities of the Group of Friends of the Global Development Initiative under the UN auspices. In order to accelerate the implementation of the UN 2030 Agenda for Sustainable Development, the sides call on the international community to take practical steps in key areas of cooperation such as poverty reduction, food security, vaccines and epidemics control, financing for development, climate change, sustainable development, including green development, industrialization, digital economy, and infrastructure connectivity.

The sides call on the international community to create open, equal, fair and non-discriminatory conditions for scientific and technological development, to step up practical implementation of scientific and technological advances in order to identify new drivers of economic growth.

The sides call upon all countries to strengthen cooperation in sustainable transport, actively build contacts and share knowledge in the construction of transport facilities, including smart transport and sustainable transport, development and use of Arctic routes, as well as to develop other areas to support global post-epidemic recovery.

The sides are taking serious action and making an important contribution to the fight against climate change. Jointly celebrating the 30th anniversary of the adoption of the UN Framework Convention on Climate Change, they reaffirm their commitment to this Convention as well as to the goals, principles and provisions of the Paris Agreement, including the principle of common but differentiated responsibilities. The sides work together to ensure the full and effective implementation of the Paris Agreement, remain committed to fulfilling the obligations they have undertaken and expect that developed countries will actually ensure the annual provision of $100 billion of climate finance to developing states. The sides oppose setting up new barriers in international trade under the pretext of fighting climate change.

The sides strongly support the development of international cooperation and exchanges in the field of biological diversity, actively participating in the relevant global governance process, and intend to jointly promote the harmonious development of humankind and nature as well as green transformation to ensure sustainable global development.

The Heads of State positively assess the effective interaction between Russia and China in the bilateral and multilateral formats focusing on the fight against the COVID-19 pandemic, protection of life and health of the population of the two countries and the peoples of the world. They will further increase cooperation in the development and manufacture of vaccines against the new coronavirus infection, as well as medical drugs for its treatment, and enhance collaboration in public health and modern medicine. The sides plan to strengthen coordination on epidemiological measures to ensure strong protection of health, safety and order in contacts between citizens of the two countries. The sides have commended the work of the competent authorities and regions of the two countries on implementing quarantine measures in the border areas and ensuring the stable operation of the border crossing points, and intend to consider establishing a joint mechanism for epidemic control and prevention in the border areas to jointly plan anti-epidemic measures to be taken at the border checkpoints, share information, build infrastructure and improve the efficiency of customs clearance of goods.

The sides emphasize that ascertaining the origin of the new coronavirus infection is a matter of science. Research on this topic must be based on global knowledge, and that requires cooperation among scientists from all over the world. The sides oppose politicization of this issue. The Russian side welcomes the work carried out jointly by China and WHO to identify the source of the new coronavirus infection and supports the China – WHO joint report on the matter. The sides call on the global community to jointly promote a serious scientific approach to the study of the coronavirus origin.

The Russian side supports a successful hosting by the Chinese side of the Winter Olympic and Paralympic Games in Beijing in 2022.

The sides highly appreciate the level of bilateral cooperation in sports and the Olympic movement and express their readiness to contribute to its further progressive development.

III

The sides are gravely concerned about serious international security challenges and believe that the fates of all nations are interconnected. No State can or should ensure its own security separately from the security of the rest of the world and at the expense of the security of other States. The international community should actively engage in global governance to ensure universal, comprehensive, indivisible and lasting security.

The sides reaffirm their strong mutual support for the protection of their core interests, state sovereignty and territorial integrity, and oppose interference by external forces in their internal affairs.

The Russian side reaffirms its support for the One-China principle, confirms that Taiwan is an inalienable part of China, and opposes any forms of independence of Taiwan.

Russia and China stand against attempts by external forces to undermine security and stability in their common adjacent regions, intend to counter interference by outside forces in the internal affairs of sovereign countries under any pretext, oppose colour revolutions, and will increase cooperation in the aforementioned areas.

The sides condemn terrorism in all its manifestations, promote the idea of creating a single global anti-terrorism front, with the United Nations playing a central role, advocate stronger political coordination and constructive engagement in multilateral counterterrorism efforts. The sides oppose politicization of the issues of combating terrorism and their use as instruments of policy of double standards, condemn the practice of interference in the internal affairs of other States for geopolitical purposes through the use of terrorist and extremist groups as well as under the guise of combating international terrorism and extremism.

The sides believe that certain States, military and political alliances and coalitions seek to obtain, directly or indirectly, unilateral military advantages to the detriment of the security of others, including by employing unfair competition practices, intensify geopolitical rivalry, fuel antagonism and confrontation, and seriously undermine the international security order and global strategic stability.

The sides oppose further enlargement of NATO and call on the North Atlantic Alliance to abandon its ideologized cold war approaches, to respect the sovereignty, security and interests of other countries, the diversity of their civilizational, cultural and historical backgrounds, and to exercise a fair and objective attitude towards the peaceful development of other States. The sides stand against the formation of closed bloc structures and opposing camps in the Asia-Pacific region and remain highly vigilant about the negative impact of the United States' Indo-Pacific strategy on peace and stability in the region. Russia and China have made consistent efforts to build an equitable, open and inclusive security system in the Asia-Pacific Region (APR) that is not directed against third countries and that promotes peace, stability and prosperity.

The sides welcome the Joint Statement of the Leaders of the Five Nuclear-Weapons States on Preventing Nuclear War and Avoiding Arms Races and believe that all nuclear-weapons States should abandon the cold war mentality and zero-sum games, reduce the role of nuclear weapons in their national security policies, withdraw nuclear weapons deployed abroad, eliminate the unrestricted development of global anti-ballistic missile defense (ABM) system, and take effective steps to reduce the risks of nuclear wars and any armed conflicts between countries with military nuclear capabilities.

The sides reaffirm that the Treaty on the Non-Proliferation of Nuclear Weapons is the cornerstone of the international disarmament and nuclear non-proliferation system, an important part of the post-war international security system, and plays an indispensable role in world peace and development.

The international community should promote the balanced implementation of the three pillars of the Treaty and work together to protect the credibility, effectiveness and the universal nature of the instrument.

The sides are seriously concerned about the trilateral security partnership between Australia, the United States, and the United Kingdom (AUKUS), which provides for deeper cooperation between its members

in areas involving strategic stability, in particular their decision to initiate cooperation in the field of nuclear-powered submarines. Russia and China believe that such actions are contrary to the objectives of security and sustainable development of the Asia-Pacific region, increase the danger of an arms race in the region, and pose serious risks of nuclear proliferation. The sides strongly condemn such moves and call on AUKUS participants to fulfil their nuclear and missile non-proliferation commitments in good faith and to work together to safeguard peace, stability, and development in the region.

Japan's plans to release nuclear contaminated water from the destroyed Fukushima nuclear plant into the ocean and the potential environmental impact of such actions are of deep concern to the sides. The sides emphasize that the disposal of nuclear contaminated water should be handled with responsibility and carried out in a proper manner based on arrangements between the Japanese side and neighbouring States, other interested parties, and relevant international agencies while ensuring transparency, scientific reasoning, and in accordance with international law.

The sides believe that the U.S. withdrawal from the Treaty on the Elimination of Intermediate-Range and Shorter-Range Missiles, the acceleration of research and the development of intermediate-range and shorter-range ground-based missiles and the desire to deploy them in the Asia-Pacific and European regions, as well as their transfer to the allies, entail an increase in tension and distrust, increase risks to international and regional security, lead to the weakening of international non-proliferation and arms control system, undermining global strategic stability. The sided call on the United States to respond positively to the Russian initiative and abandon its plans to deploy intermediate-range and shorter-range ground-based missiles in the Asia-Pacific region and Europe. The sides will continue to maintain contacts and strengthen coordination on this issue.

The Chinese side is sympathetic to and supports the proposals put forward by the Russian Federation to create long-term legally binding security guarantees in Europe.

The sides note that the denunciation by the United States of a number of important international arms control agreements has an extremely negative impact on international and regional security and stability.

The sides express concern over the advancement of U.S. plans to develop global missile defence and deploy its elements in various regions of the world, combined with capacity building of high-precision non-nuclear weapons for disarming strikes and other strategic objectives. The sides stress the importance of the peaceful uses of outer space, strongly support the central role of the UN Committee on the Peaceful Uses of Outer Space in promoting international cooperation, maintaining and developing international space law and regulation in the field of space activities. Russia and China will continue to increase cooperation on such matters of mutual interest as the long-term sustainability of space activities and the development and use of space resources. The sides oppose attempts by some States to turn outer space into an arena of armed confrontation and reiterate their intention to make all necessary efforts to prevent the weaponization of space and an arms race in outer space. They will counteract activities aimed at achieving military superiority in space and using it for combat operations.

The sides affirm the need for the early launch of negotiations to conclude a legally binding multilateral instrument based on the Russian-Chinese draft treaty on the prevention of placement of weapons in outer space and the use or threat of force against space objects that would provide fundamental and reliable guarantees against an arms race and the weaponization of outer space.

Russia and China emphasize that appropriate transparency and confidence-building measures, including an international initiative/political commitment not to be the first to place weapons in space, can also contribute to the goal of preventing an arms race in outer space, but such measures should complement and not substitute the effective legally binding regime governing space activities.

The sides reaffirm their belief that the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (BWC) is an essential pillar of international peace and security. Russia and China underscore their determination to preserve the credibility and effectiveness of the Convention.

The sides affirm the need to fully respect and further strengthen the BWC, including by institutionalizing it, strengthening its mechanisms, and adopting a legally binding Protocol to the Convention with an effective verification mechanism, as well as through regular consultation and cooperation in addressing any issues related to the implementation of the Convention.

The sides emphasize that domestic and foreign bioweapons activities by the United States and its allies raise serious concerns and questions for the international community regarding their compliance with the BWC. The sides share the view that such activities pose a serious threat to the national security of the Russian Federation and China and are detrimental to the security of the respective regions.

The sides call on the U.S. and its allies to act in an open, transparent, and responsible manner by properly reporting on their military biological activities conducted overseas and on their national territory, and by supporting the resumption of negotiations on a legally binding BWC Protocol with an effective verification mechanism.

The sides, reaffirming their commitment to the goal of a world free of chemical weapons, call upon all parties to the Chemical Weapons Convention to work together to uphold its credibility and effectiveness. Russia and China are deeply concerned about the politicization of the Organization for the Prohibition of Chemical Weapons and call on all of its members to strengthen solidarity and cooperation and protect the tradition of consensual decision-making. Russia and China insist that the United States, as the sole State Party to the Convention that has not yet completed the process of eliminating chemical weapons, accelerate the elimination of its stockpiles of chemical weapons.

The sides emphasize the importance of balancing the non-proliferation obligations of states with the interests of legitimate international cooperation in the use of advanced technology and related materials and equipment for peaceful purposes. The sides note the resolution entitled ”Promoting international Cooperation on Peaceful Uses in the Context of International Security“ adopted at the 76th session of the UN General Assembly on the initiative of China and co-sponsored by Russia, and look forward to its consistent implementation in accordance with the goals set forth therein.

The sides attach great importance to the issues of governance in the field of artificial intelligence. The sides are ready to strengthen dialogue and contacts on artificial intelligence.

The sides reiterate their readiness to deepen cooperation in the field of international information security and to contribute to building an open, secure, sustainable and accessible ICT environment. The sides emphasize that the principles of the non-use of force, respect for national sovereignty and fundamental human rights and freedoms, and non-interference in the internal affairs of other States, as enshrined in the UN Charter, are applicable to the information space. Russia and China reaffirm the key role of the UN in responding to threats to international information security and express their support for the Organization in developing new norms of conduct of states in this area.

The sides welcome the implementation of the global negotiation process on international information security within a single mechanism and support in this context the work of the UN Open-ended Working Group on security of and in the use of information and communication technologies (ICTs) 2021–2025 (OEWG) and express their willingness to speak with one voice within it. The sides consider it necessary to consolidate the efforts of the international community to develop new norms of responsible behaviour of States, including legal ones, as well as a universal international legal instrument regulating the activities of States in the field of ICT. The sides believe that the Global Initiative on Data Security, proposed by the Chinese side and supported, in principle, by the Russian side, provides a basis for the Working Group to discuss and elaborate responses to data security threats and other threats to international information security.

The sides reiterate their support of United Nations General Assembly resolutions 74/247 and 75/282, support the work of the relevant Ad Hoc Committee of Governmental Experts, facilitate the negotiations within the United Nations for the elaboration of an international convention on countering the use of ICTs for criminal purposes. The sides encourage constructive participation of all sides in the negotiations in order to agree as soon as possible on a credible, universal, and comprehensive convention and provide it to the United Nations General Assembly at its 78th session in strict

compliance with resolution 75/282. For these purposes, Russia and China have presented a joint draft convention as a basis for negotiations.
The sides support the internationalization of Internet governance, advocate equal rights to its governance, believe that any attempts to limit their sovereign right to regulate national segments of the Internet and ensure their security are unacceptable, are interested in greater participation of the International Telecommunication Union in addressing these issues.
The sides intend to deepen bilateral cooperation in international information security on the basis of the relevant 2015 intergovernmental agreement. To this end, the sides have agreed to adopt in the near future a plan for cooperation between Russia and China in this area.
IV
The sides underline that Russia and China, as world powers and permanent members of the United Nations Security Council, intend to firmly adhere to moral principles and accept their responsibility, strongly advocate the international system with the central coordinating role of the United Nations in international affairs, defend the world order based on international law, including the purposes and principles of the Charter of the United Nations, advance multipolarity and promote the democratization of international relations, together create an even more prospering, stable, and just world, jointly build international relations of a new type.
The Russian side notes the significance of the concept of constructing a ”community of common destiny for mankind“ proposed by the Chinese side to ensure greater solidarity of the international community and consolidation of efforts in responding to common challenges. The Chinese side notes the significance of the efforts taken by the Russian side to establish a just multipolar system of international relations.
The sides intend to strongly uphold the outcomes of the Second World War and the existing post-war world order, defend the authority of the United Nations and justice in international relations, resist attempts to deny, distort, and falsify the history of the Second World War.
In order to prevent the recurrence of the tragedy of the world war, the sides will strongly condemn actions aimed at denying the responsibility for atrocities of Nazi aggressors, militarist invaders, and their accomplices, besmirch and tarnish the honour of the victorious countries.
The sides call for the establishment of a new kind of relationships between world powers on the basis of mutual respect, peaceful coexistence and mutually beneficial cooperation. They reaffirm that the new inter-State relations between Russia and China are superior to political and military alliances of the Cold War era. Friendship between the two States has no limits, there are no ”forbidden“ areas of cooperation, strengthening of bilateral strategic cooperation is neither aimed against third countries nor affected by the changing international environment and circumstantial changes in third countries.
The sides reiterate the need for consolidation, not division of the international community, the need for cooperation, not confrontation. The sides oppose the return of international relations to the state of confrontation between major powers, when the weak fall prey to the strong. The sides intend to resist attempts to substitute universally recognized formats and mechanisms that are consistent with international law for rules elaborated in private by certain nations or blocs of nations, and are against addressing international problems indirectly and without consensus, oppose power politics, bullying, unilateral sanctions, and extraterritorial application of jurisdiction, as well as the abuse of export control policies, and support trade facilitation in line with the rules of the World Trade Organization (WTO).
The sides reaffirmed their intention to strengthen foreign policy coordination, pursue true multilateralism, strengthen cooperation on multilateral platforms, defend common interests, support the international and regional balance of power, and improve global governance.
The sides support and defend the multilateral trade system based on the central role of the World Trade Organization (WTO), take an active part in the WTO reform, opposing unilateral approaches and protectionism. The sides are ready to strengthen dialogue between partners and coordinate positions on trade and economic issues of common concern, contribute to ensuring the sustainable and stable

operation of global and regional value chains, promote a more open, inclusive, transparent, non-discriminatory system of international trade and economic rules.
The sides support the G20 format as an important forum for discussing international economic cooperation issues and anti-crisis response measures, jointly promote the invigorated spirit of solidarity and cooperation within the G20, support the leading role of the association in such areas as the international fight against epidemics, world economic recovery, inclusive sustainable development, improving the global economic governance system in a fair and rational manner to collectively address global challenges.
The sides support the deepened strategic partnership within BRICS, promote the expanded cooperation in three main areas: politics and security, economy and finance, and humanitarian exchanges.
In particular, Russia and China intend to encourage interaction in the fields of public health, digital economy, science, innovation and technology, including artificial intelligence technologies, as well as the increased coordination between BRICS countries on international platforms. The sides strive to further strengthen the BRICS Plus/Outreach format as an effective mechanism of dialogue with regional integration associations and organizations of developing countries and States with emerging markets.
The Russian side will fully support the Chinese side chairing the association in 2022, and assist in the fruitful holding of the XIV BRICS summit.
Russia and China aim to comprehensively strengthen the Shanghai Cooperation Organization (SCO) and further enhance its role in shaping a polycentric world order based on the universally recognized principles of international law, multilateralism, equal, joint, indivisible, comprehensive and sustainable security.
They consider it important to consistently implement the agreements on improved mechanisms to counter challenges and threats to the security of SCO member states and, in the context of addressing this task, advocate expanded functionality of the SCO Regional Anti-Terrorist Structure.
The sides will contribute to imparting a new quality and dynamics to the economic interaction between the SCO member States in the fields of trade, manufacturing, transport, energy, finance, investment, agriculture, customs, telecommunications, innovation and other areas of mutual interest, including through the use of advanced, resource-saving, energy efficient and ”green“ technologies.
The sides note the fruitful interaction within the SCO under the 2009 Agreement between the Governments of the Shanghai Cooperation Organization member States on cooperation in the field of international information security, as well as within the specialized Group of Experts. In this context, they welcome the adoption of the SCO Joint Action Plan on Ensuring International Information Security for 2022–2023 by the Council of Heads of State of SCO Member States on September 17, 2021 in Dushanbe.
Russia and China proceed from the ever-increasing importance of cultural and humanitarian cooperation for the progressive development of the SCO. In order to strengthen mutual understanding between the people of the SCO member States, they will continue to effectively foster interaction in such areas as cultural ties, education, science and technology, healthcare, environmental protection, tourism, people-to-people contacts, sports.
Russia and China will continue to work to strengthen the role of APEC as the leading platform for multilateral dialogue on economic issues in the Asia-Pacific region. The sides intend to step up coordinated action to successfully implement the ”Putrajaya guidelines for the development of APEC until 2040“ with a focus on creating a free, open, fair, non-discriminatory, transparent and predictable trade and investment environment in the region. Particular emphasis will be placed on the fight against the novel coronavirus infection pandemic and economic recovery, digitalization of a wide range of different spheres of life, economic growth in remote territories and the establishment of interaction between APEC and other regional multilateral associations with a similar agenda.
The sides intend to develop cooperation within the ”Russia-India-China“ format, as well as to strengthen interaction on such venues as the East Asia Summit, ASEAN Regional Forum on Security, Meeting

of Defense Ministers of the ASEAN Member States and Dialogue Partners. Russia and China support ASEAN's central role in developing cooperation in East Asia, continue to increase coordination on deepened cooperation with ASEAN, and jointly promote cooperation in the areas of public health, sustainable development, combating terrorism and countering transnational crime. The sides intend to continue to work in the interest of a strengthened role of ASEAN as a key element of the regional architecture.

https://en.irna.ir/news/84644953/Iran-unveils-Kheibar-Shekan-missile-with-1-450-KM-range

Feb 9, 2022, 1:36 PM

Iran unveils Kheibar Shekan missile with 1,450 KM range

Iran unveils Kheibar Shekan missile with 1,450 KM range

Tehran, IRNA - The Islamic Revolution Guard Corps (IRGC) on Wednesday unveiled new missile called "Kheibar Shekan" with 1,450 Kilometers range.

The unveiling ceremony of Kheibar Shekan missile was held in the presence of Chief of Staff of Iranian Armed Forces Major-General Mohammad Bagheri and IRGC Commander of the Aerospace Force Brigadier General Amir Ali Hajizadeh.

The ceremony coincided with the nationwide celebrations to mark the 43rd anniversary of the glorious victory of the Islamic Revolution in Iran.

The new strategic long-range missile, which uses solid fuel, is classified among the third generation of the IRGC missiles, and is unique in terms of weight and firing.

Kheibar Shekan missile's weight is reduced by one-third in comparison to similar ones and the time needed to launch it has been reduced by six times.

Iran unveils Kheibar Shekan missile with 1,450 KM range

The Kheibar Shekan missile also enjoys high maneuverability in face of anti-missile systems, and extreme agility and speed in hitting targets within a range of 1450 km are among other capabilities of this new strategic long-range missile.

This homegrown system, from idea to product, has been designed and built by scientists of the IRGC Air Force.

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SAF Group created transcript of excerpts from Gulf Intelligence podcast "Daily Energy Markets – Feb 6th" [LINK]. Sean Evers, Managing Partner Gulf Intelligence, Mike Muller, Head Vitol Asia, Christof Ruhl, Senior Research Scholar Center on Global Energy Policy Columbia University

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

At 0:50 min mark, Evers re all bullish oil items like Aramco raising OSP, *"you told us last time, more or less pointed in this direction firmly, do you think this keeps moving from here?"* Muller "*well, it's come $2.50 last week and about $2.50 the previous week as well so it's not an unrestrained rally but, Yes, markets have very high implied volatility at these levels. And we have moved from a market that at the end of the year seemed a little bit to be in a risk off mode to people now seem to take great interest in the energy complex. But the bit I like to come to straight away here is fundamentals because there are a lot of people saying that, and I have heard some of your podcast last week for example suggesting, there are fundamental signs that are mixed. And my view is that it's a very resolute positive. There are reasons why the market is backward at the front and so backward, so much so that the market is telling you be careful, don't be short because we are one disruption, one refinery wobble away from markets getting even stronger. Whether it's the backwardation in the distillates market, whether it's jet fuel is trading at or above gas/oil, whether it's the backwardation in crude, these are all the manifestation of tightness up at the front where there is scarcity or a perceived scarcity of supply, which is not being helped by a combination of many refinery closures in recent years for reasons we know. Plus unscheduled refinery issues. Plus certainly in Europe the need to factor in higher gas prices and carbon prices into refinery margins. so refining margins are telling you refineries should be running flat out because product cracks are at levels we haven't seen for many, many months. As a consequence, that should be pulling very hard on crude markets. And inventories continue to sit at levels that are worrisome. and then we'll start talking about where the spare capacity is and the pace and rate of investments in the US is not quite what it was before, we're still nowhere near the peak that we saw pre-pandemic in terms pf US production capacity. And the spare capacity in OPEC+ is really down to two and a half or three members now and month after the month the 400,000 barrels per day that is being put on the market is actually, in effect, a much much smaller number than that. which leads us to a point in time that we can debate whether it's the 2nd half of this year or sometime next year, OPEC spare capacity reaches levels that are considered alarming. So much so that the debate has now swung to how soon we need Iranian supply to help alleviate the situation. Or whether there is even a need for more SPR because the way the SPR releases that Joe Biden's administration initiated over a month back were, with hindsight, just a small event."*

At 7:15 min mark, Evers asks about "*Mike, what are your thoughts coming from many that this is a year of two halves. The first half will be tight, the second half will ease off. We've had the US CEO of ConocoPhillips over the weekend warning that people are underestimating how much US oil production could come back this year as much as nearly a million barrels as part of that easing in the second half, your thoughts?"* Muller "*I didn't read the ConocoPhillips CEO comments as a warning, I read it as a factual statement. and I think it was another 800,000 to 900,000 barrels a day of US shale production that people at the very least would have expected. If you put me in a time capsule and sent me back a year and said if the oil price were at $75 a barrel, how much extra production would we see in the US? I would have given you his number. we're at 90 something so I think with WTI thru 90, I think those numbers are reasonably modest and they are a reflection of conservatism. And the prioritization among oil majors, even the listed US majors to not put all their eggs in the shale and oil basket in this time of energy transition. so, Yes, I don't subscribe to the view that you have two halves, the second half being weak. Except, everybody is building into their balances for the second half, the return of Iranian crude. And it's really a question of when. Administratively, even if there were to be a reconciliation and an agreement to drop sanctions, the return of Iranian crude is not foreseeable in Q2, even under an express outcome. So one has to assume this is a second half event. And then it's a question of what sort of rate of ramp up and I think most observers will be aware that there is a floating inventory of unsold oil on ships that have been commonly referred to as the floating flotilla of South Pars condensate largely. That would obviously all get released into the market somewhat*

quicker and then the rate of ramp up will also be reasonably quick. But the fact that this is in people's balances already and has been. Without exception, every investment bank, every advisory consultant, every oil major, they all have a view that Iranian oil will be out later this year tells you the world needs this oil."

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

Oil price outlook

Snapshot: February 7, 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**	↑	• Global refinery margins were stronger over the past week as oil product cracks across the barrel strengthened.
	Crude stocks	↑	• In the week ending January 28, land crude-oil storage levels in BloombergNEF's tracked regions (U.S., ARA, Japan) fell by 1.2% week-on-week to 516.4 million barrels (m bbl). The stockpile **deficit** against its five-year average (2015-19) **widened from 56.1m bbl to 66.3m bbl**. • Including global floating crude stockpiles from the same week, total crude oil inventories decreased by 1.3% to 616.8m bbl, with the stockpile **deficit widening from 24.9m bbl to 39.6m bbl.**
	Product stocks	↔	• In the week ending January 28, gasoline and light distillate stockpiles in BNEF's tracked regions (U.S., ARA, Singapore, Japan and Fujairah) were up 2.1% week-on-week to 294.0m bbl, with the stockpile **deficit** against its three-year average (2017-19) **narrowing from 7.4m bbl to 1.9m bbl**. Gasoil and middle distillate stockpiles in BNEF's tracked regions dropped by 2.4% to 153.2m bbl, with the stockpile **deficit** against its three-year average **widening from 38.6m bbl to 42.7m bbl**. • Total oil product stockpiles in tracked regions decreased by 0.3% to 927.6m bbl, with the stockpile **deficit** against its three-year seasonal average **narrowing from 59.9m bbl to 55.4m bbl**. All in all, crude and product stockpiles dropped by 0.7% to 1,544.3m bbl, with the stockpile **deficit widening from 84.8m bbl to 94.9m bbl.**
	Demand indicators	↑	• In the week to February 1, global jet fuel demand from commercial passenger flights fell by 53,800 barrels per day (or 1.3%) week-on-week to 4.10 million barrels per day. Jet fuel consumption by international passenger departures was down by 19,800 barrels per day (or 1%) week-on-week, while consumption by domestic passenger departures fell by 34,000 barrels per day (or 1.6%). • Global mobility indices rose over the past week. Apple's global driving activity index increased by 2.9% in the week to February 4, driven by growth in Asia Pacific ex-China (+7.2%) and Europe (+6.1%). Google's global mobility index was also up by 1.6% in the week to February 3, reflecting growth in Europe (+3.5%) and the Americas (+1.3%). Road congestion in China decreased by 18.2 percentage points to 83.2% of 2021 levels in the week to February 2, according to BNEF calculation based on Baidu's data. • Daily average Covid-19 cases were down 11% to 2.9 million in the week to February 5, the first week of decrease since December. Europe was down by 0.6% to under 1.5 million daily cases, Asia Pacific was down 21% to 398,000 daily cases and the Americas were down 29% to 710,700 daily cases. All numbers shown are the daily averages to the week ending February 5. • Weather forecasts showed that temperatures in European cities are becoming warmer. Temperatures in Asian cities turned colder over the past week but remained mild by historical trends.
Financial	**Macro indicators**	↔	• The dollar index averaged at 96.0 over the past week and was 0.7% lower than the week before as the European Central Bank signaled a hawkish turn in policy. Global Manufacturing PMI fell to 53.2 in January from 54.3 in December.
	Hedge fund positioning	↔	• In the week to February 1, Managed Money net positioning in the oil complex increased by 15.8m bbl (or 2.1%) week-on-week to 758.7m bbl, and rose to the 50th percentile (vs. the 49th last week) of the past five years. European gasoil saw the largest growth of 15% in net length.
	Options chains and volatility	↔	• There was some profit-taking in prompt-month Brent and WTI calls, as well as an increase in Brent Jun-22 and Dec-22 $100/bbl calls. There was also an increase in open interest for Dec-22 Brent and WTI $200/bbl calls.
Outlook	**Weekly call**	↔	• BNEF is neutral on oil prices for the week ahead, with Brent Apr-22 trading at $92.83/bbl and WTI Mar-22 trading at $91.43/bbl at the time of writing. High-frequency data for global oil inventories suggest that the stockpile deficit against the seasonal averages has widened to near the post-pandemic record level set two weeks ago. Daily Covid-19 cases have fallen for the first time since the week to December 13, and have fallen by 21% in Asia Pacific where oil demand tends to be more sensitive to the number of cases. OPEC+ has decided to roll over production hikes by another 400,000 b/d for March 2022.

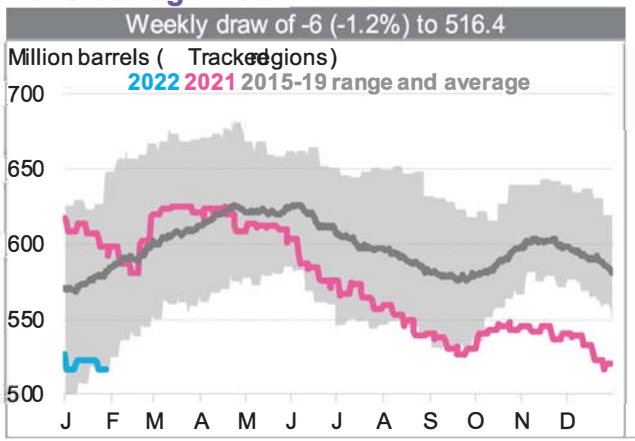
Crude stocks: Land

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 will excluded from January 10.

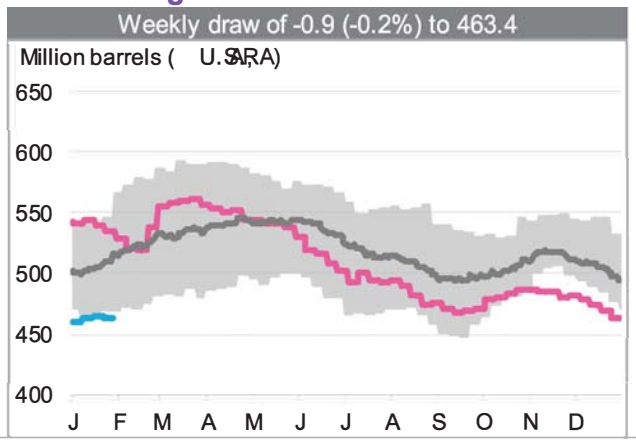
Bullish: Deficit widened from 56.1m bbl to 66.3m bbl against seasonal average

- 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.

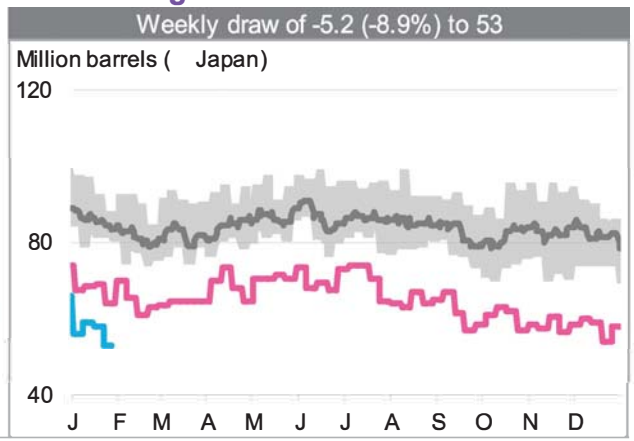
Land storage: Total



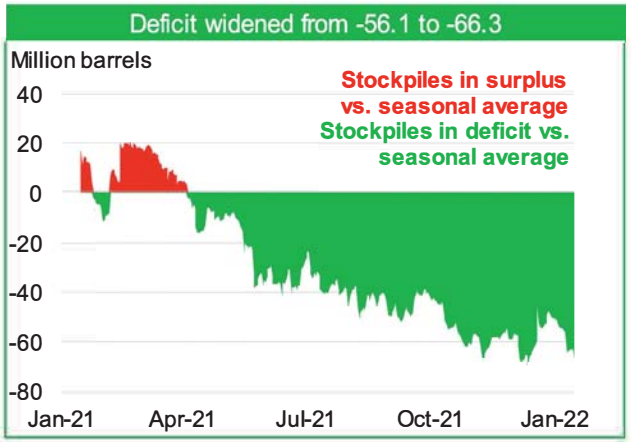
Land storage: West of Suez

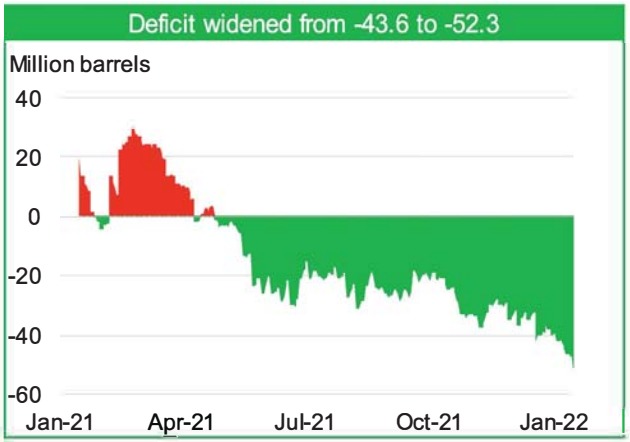


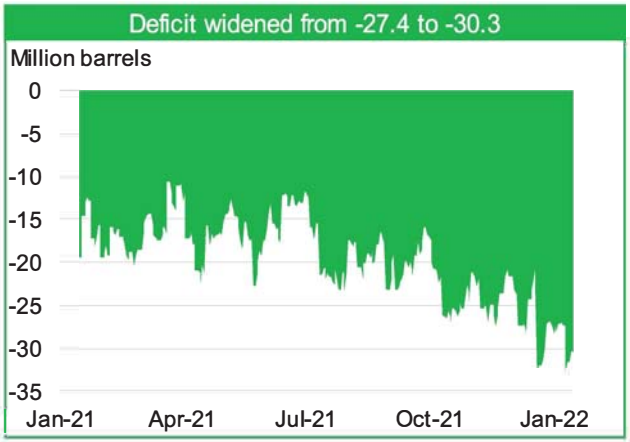
Land storage: East of Suez



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 Jan. 28.***

BloombergNEF

Crude stocks: Floating

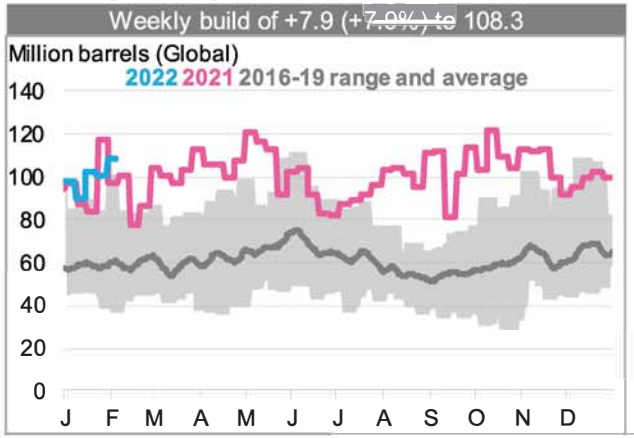
Bearish: Surplus widened over the past week

- 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 is available in the table to the right.

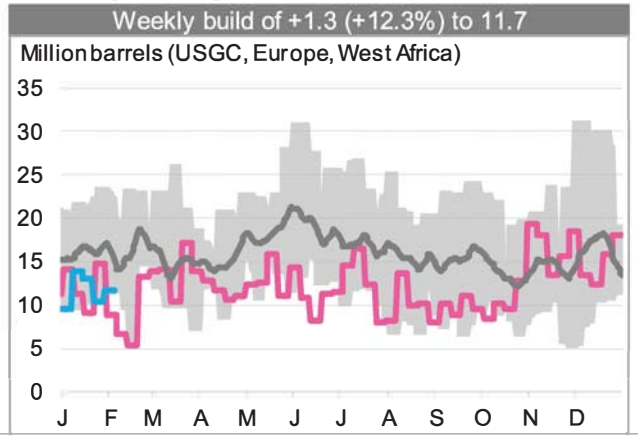
***Vortexa's revision to global floating crude inventories**

Million barrels	Previous report	Current report	*Vortexa's revision
Inventories in week of Jan. 28	80.8	100.4	+19.6
Inventories in week of Jan. 21	105.2	102.2	-3.0

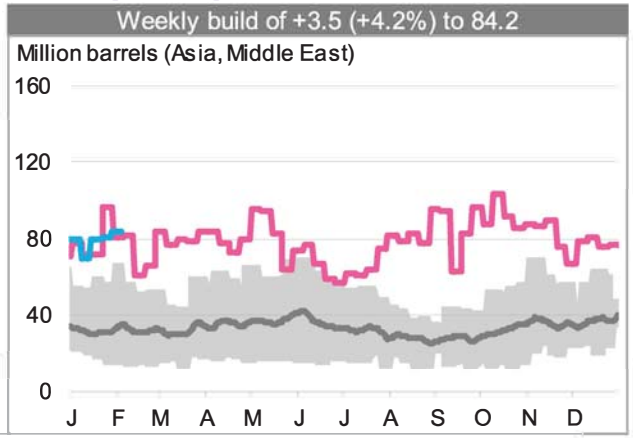
Floating storage: Total



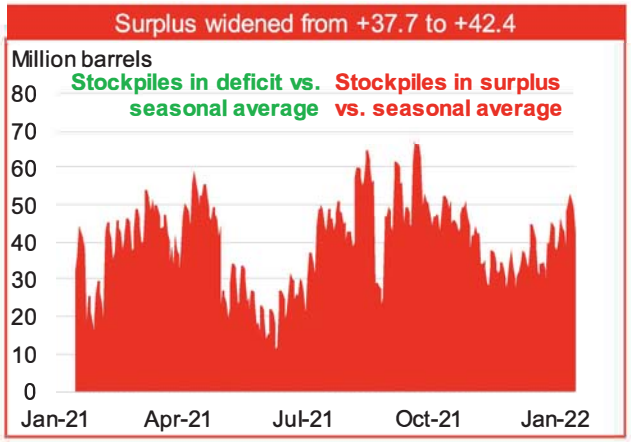
Floating storage: West of Suez

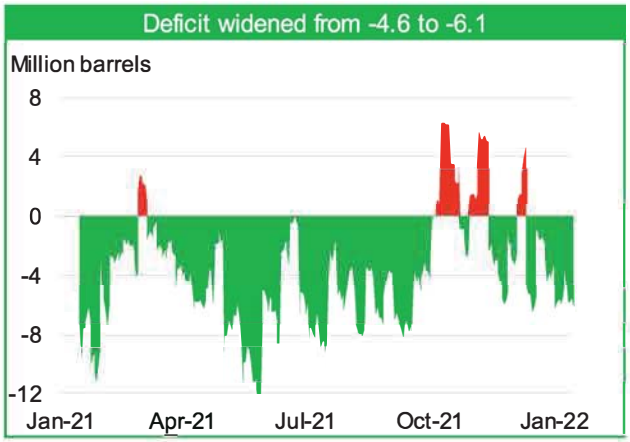


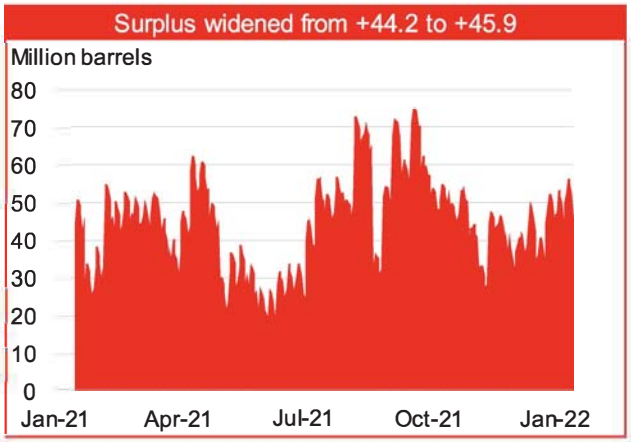
Floating storage: East of Suez



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







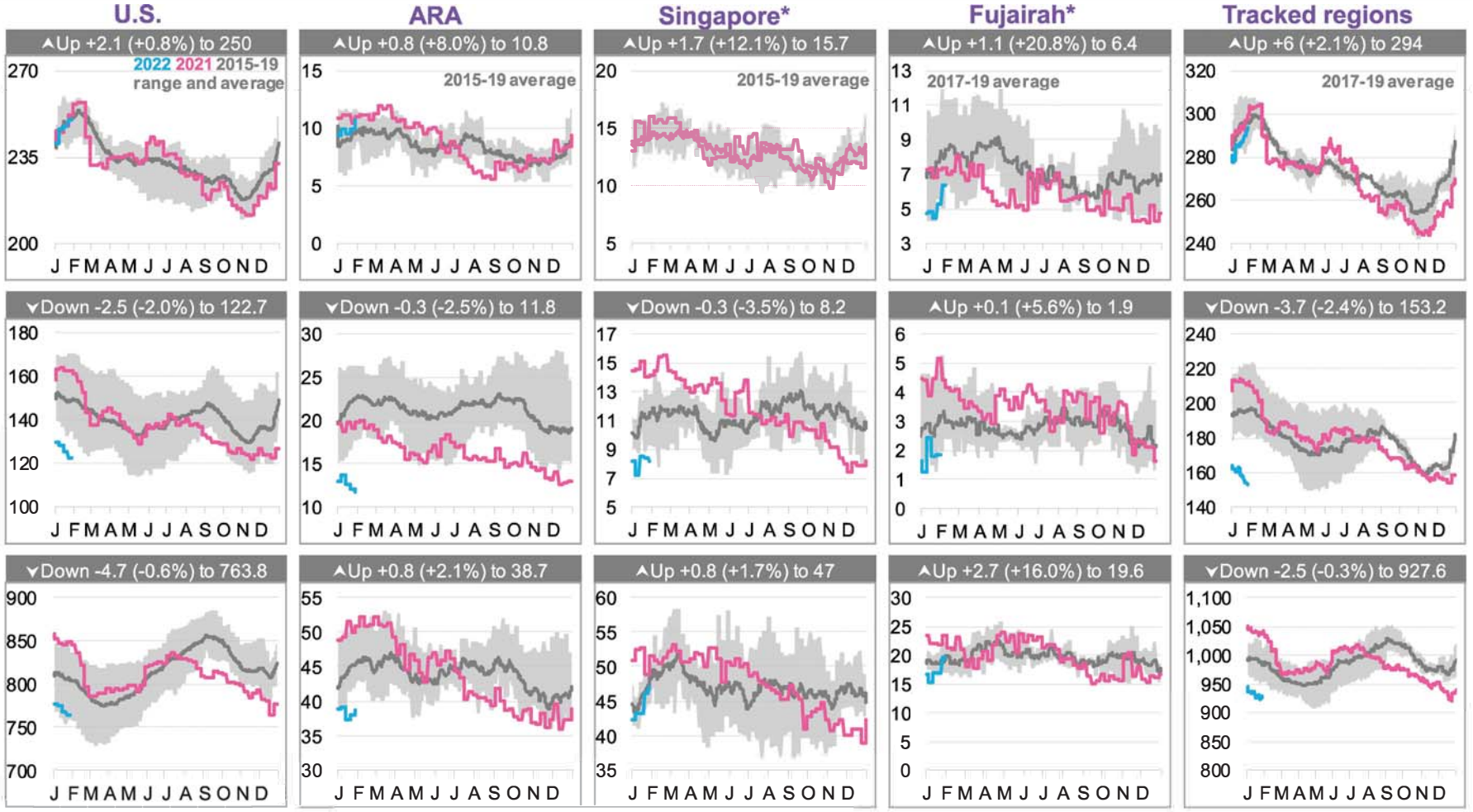
Source: BloombergNEF, Vortexa. Note: As of the ***week ending February 4. *Raw data from Vortexa is revised frequently, so the data in this report might change week-to-week.***

Product stocks: Current vs. seasonal average

Neutral: Oil product stockpiles in tracked regions fell by 0.3% 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 Jan. 28.***

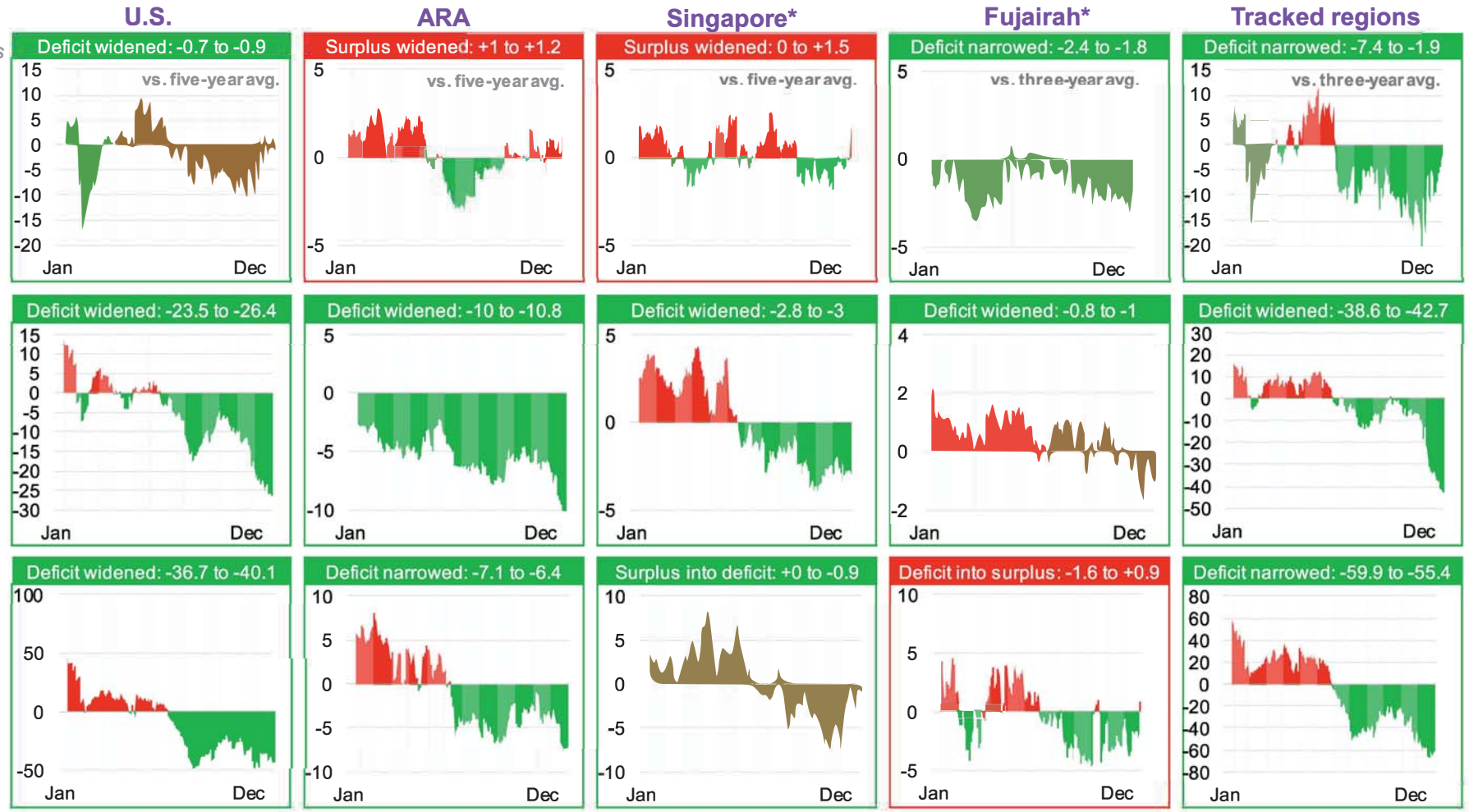
BloombergNEF

Product stocks: Current vs. seasonal average

Neutral: Oil product stockpile deficit against the seasonal average narrowed from 59.9m bbl to 55.4m 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 Jan. 28.***

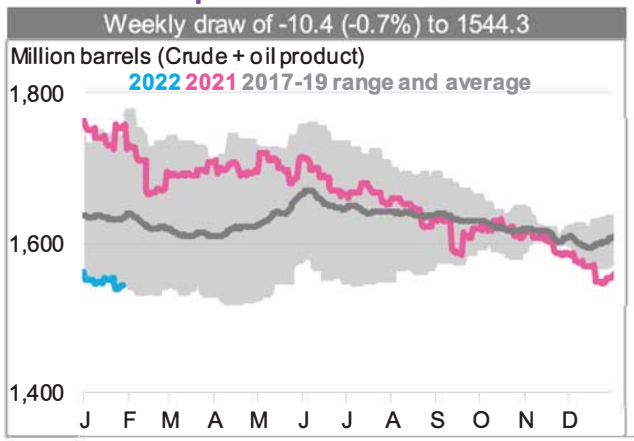
Aggregated oil stockpiles

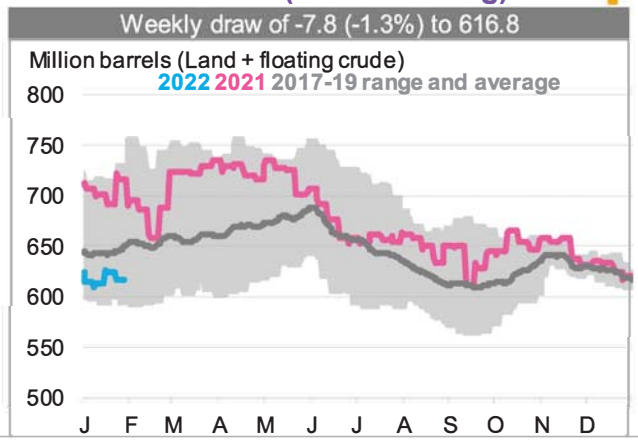
Note: We will continue to compare current inventory levels with the three-year (2017-19) seasonal average for the time being. Crude inventory data for Shandong teapots will excluded from January 10.

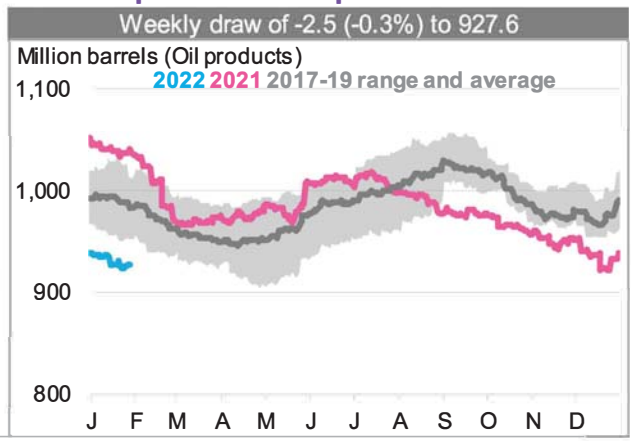
Bullish: Stockpiles deficit narrowed from 84.8m bbl to 94.9m bbl

- 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 more info.

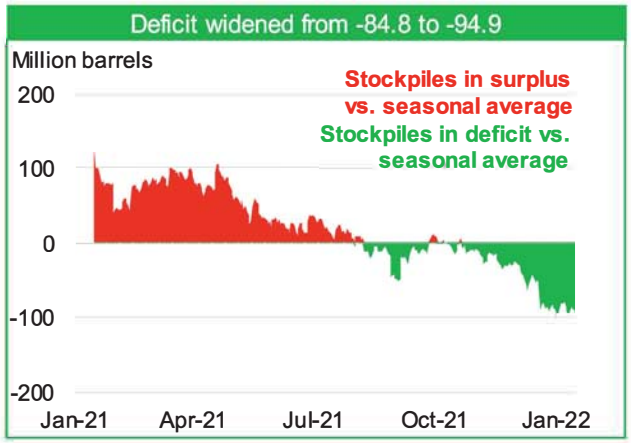
Total oil and product stocks = **Total crude stocks (land + floating)** + **Total oil product stockpiles**

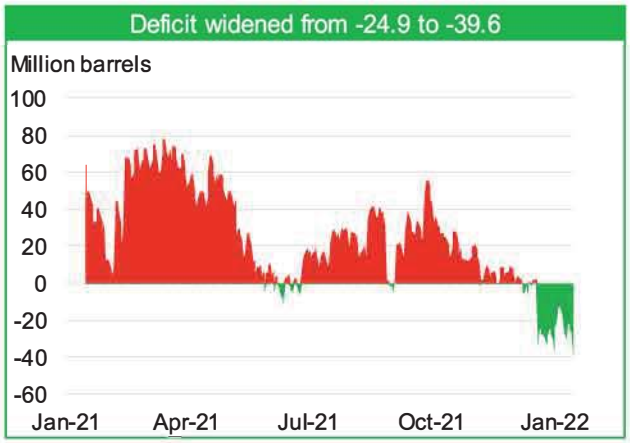


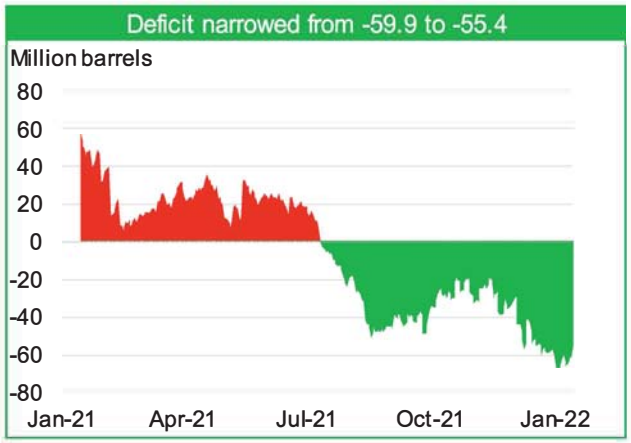




Charts below subtract current stockpiles by the 2017-19 (three-year) seasonal average







*Source: BloombergNEF, U.S. EIA, PJK, IE Singapore, FEDCom/Platts, PAJ ,Vortexa, Genscape, SCIG. As of the **week ending Jan. 28.***

Demand indicators: Weather

Neutral: Winter gets colder in East Asian cities, but temperatures are still mild by historical trends

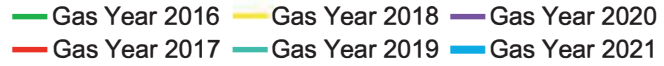
To see Global Weather Forecasts and Historical Database, go to: WFOR <GO>

Source: BloombergNEF. Note: 'Normal' is the 10-year average temperature for that period. 'Gas year' is based on the European convention of a 12-month period starting from October 1. Cooling-degree days, or CDDs, measure the number of degrees that a day's average temperature is above 18°C/65°F. Adding these up across the season becomes an indicator of total quantity of warm weather experienced in a particular period compared to others. HDDs measure average temperatures below 18°C/65°F.

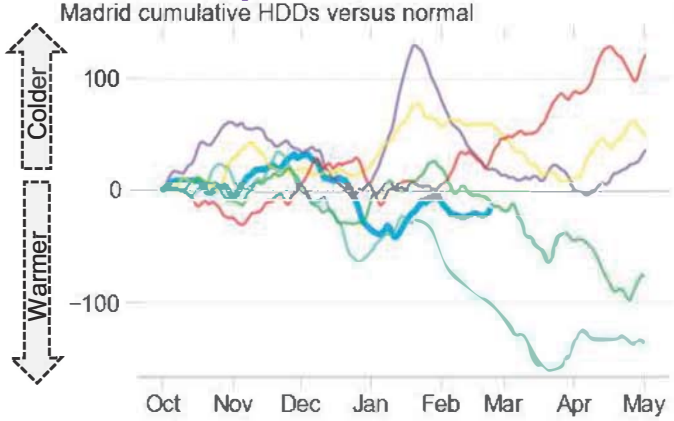
Demand indicators: Weather

Bearish: Winter continues to get warmer in European cities

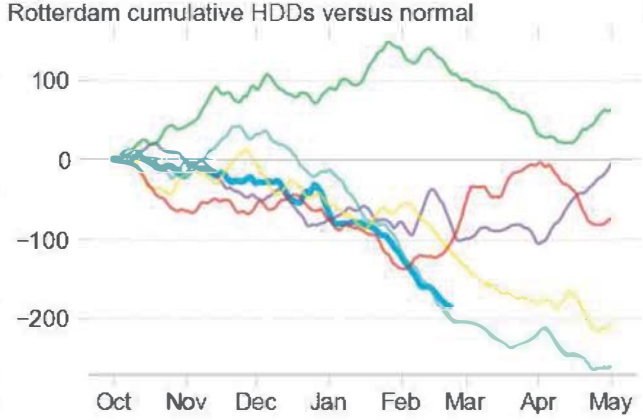
To see Global Weather Forecasts and Historical Database, go to: WFOR <GO>



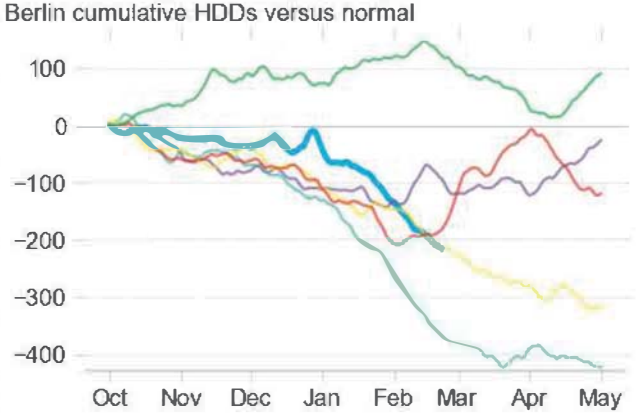
Madrid, Spain



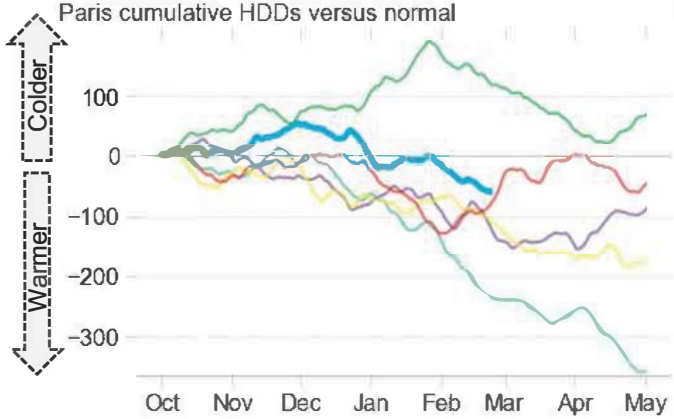
Rotterdam, Netherlands



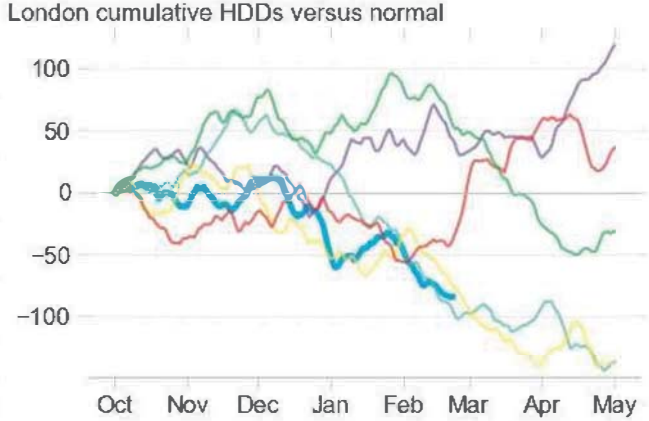
Berlin, Germany



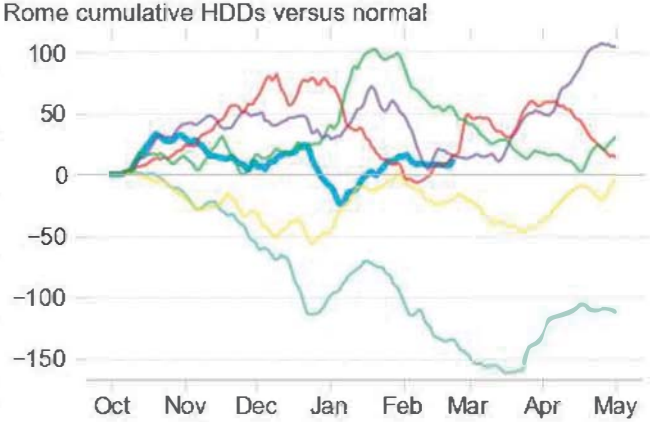
Paris, France



London, U.K.



Rome, Italy



Source: BloombergNEF. Note: 'Normal' is the 10-year average temperature for that period. 'Gas year' is based on the European convention of a 12-month period starting from October 1. Cooling-degree days, or CDDs, measure the number of degrees that a day's average temperature is above 18°C/65°F. Adding these up across the season becomes an indicator of total quantity of warm weather experienced in a particular period compared to others. HDDs measure average temperatures below 18°C/65°F.

Feb 08, 2022 08: 12:39

OIL DEMAND MONITOR: Air Travel Rising Again in Europe and China

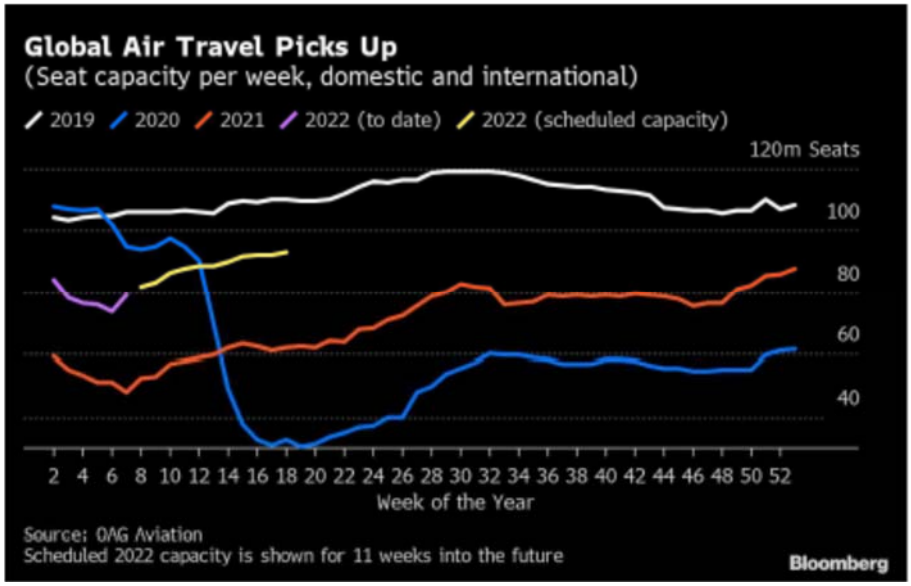
- Paris was near to matching pre-Covid traffic levels on Monday
- Gentle upswing in European flights early February: Eurocontrol

By Stephen Voss

(Bloomberg) -- Global airline seat capacity rose for the first week so far this year, potentially ending a malaise that kept aviation fuel demand subdued in January as one country after another endured waves of coronavirus infections.

The return of some previously closed domestic capacity in China has helped raise the figure, and globally, airlines offered almost 79 million seats on planes for the week commencing Feb. 7, according to OAG Aviation. That's about one quarter less than the equivalent week of 2019.

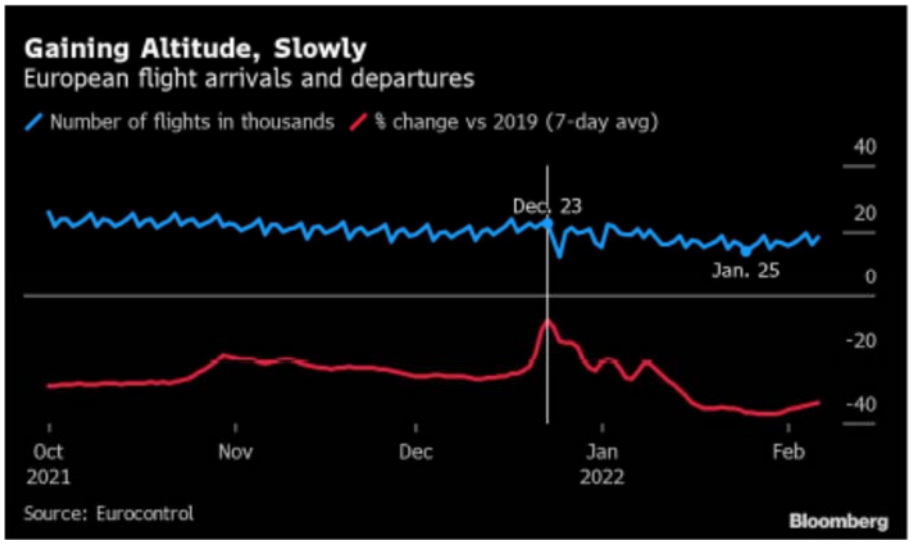
Most of that deficit is due to international travel, which is only at about half normal strength globally, while domestic travel trails 2019 levels by about 11%. The worst hit regions for international travel remain northeast and southeast Asia, including places such as Hong Kong, while domestic capacity is most reduced in the southwest Pacific, southern Africa and western Europe.



Jet fuel has been the weakest link in the oil market through the pandemic, with air travel always the first victim of any kind of lockdown or movement restriction. In its most recent monthly report, the International Energy Agency saw the omicron variant slowing the recovery in Europe's aviation fuel consumption this quarter, but expected growth to gather pace in the second and return to close to the five-year average in the remainder of the year.

European flight data is showing early signs of its deficit to 2019 starting to narrow. Arrival and departure numbers for 41 nations in the European network area sank from about 22,700 a couple of days before Christmas to as little as about 13,800 on Jan. 25 and were back up to about 18,000 on Sunday, according to government-funded Eurocontrol.

When a rolling average of the flight numbers is compared against the same period of 2019, the Eurocontrol data translates into a tumbling decline through January and the start of a gentle recovery in February.



The number of people passing through U.S. airports also appears to be narrowing a gap versus pre-Covid levels though another couple of weeks of numbers is needed to confirm that, based on data from the Transportation Security Administration. Harsh weather caused hundreds of flight cancellations at the beginning of February.

FlightRadar24 tracks the daily number of worldwide commercial flights, excluding various categories such as military travel and helicopters, and its latest figure is still stuck between the depressed levels of this time a year ago and the pre-pandemic situation in 2019 and 2020. That's a similar pattern to OAG's seat capacity data. In a normal year like 2019, the number of commercial flights would trend upward from about 100,000 a day in January to a peak of 125,000 in August. The rolling average was about 82,000 on Sunday.

City Traffic

Turning to car travel, ten out of 13 world cities regularly examined in this monitor showed more congestion this Monday morning than a week earlier, according to data collected from in-car navigation devices by TomTom NV.

Even with those widespread increases, only London and New York showed congestion exceeding the typical amount for that same time of the week in 2019, before the pandemic struck.

Paris was the next closest to getting back to normal commuting habits. A journey in the French capital that would take one hour on empty roads at 8 a.m. on Monday was augmented by an additional 43 minutes due to traffic, which was only 4% less than the typical amount of extra time in 2019.

The three locations showing decreased congestion week-on-week included Mexico City, which had no traffic waiting time at all on Monday as commuters stayed home for a public holiday.

Both the chief executive officer of Shell Plc and the oil minister for Kuwait expressed confidence last week that demand for oil and gas is recovering steadily. Both, of course, are currently benefiting from unexpectedly high oil prices, with Shell last week reporting an adjusted quarterly net income in excess of $6 billion, the highest since 2014.

Diesel Trucks

While a gradual shift in the passenger car fleet to electric vehicles is generally accepted around the world, a more resistant segment of petroleum-based transportation -- diesel trucks -- is also under threat of replacement if some early trends in China unfold elsewhere, Bloomberg reported earlier this month. Sales of heavy trucks in China that have some kind of battery or fuel cell rose rapidly in the second half of 2021, though they still represent only about 1% of the country's total heavy truck sales.

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 show 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.	+5.9	-7.9	-14	+0.7	w	Jan. 28	8.23m b/d	EIA
Distillates	U.S.	+11	+11	+13	+25	w	Jan. 28	4.67m b/d	EIA
Jet fuel	U.S.	+95	-12	-10	unch	w	Jan. 28	1.47m b/d	EIA
Total oil products	U.S.	+16	+2.9	+2.8	+8.9	w	Jan. 28	21.4m b/d	EIA
All vehicles miles traveled	U.S.			+0.4		w	Jan. 30	14.2b miles	DoT
Passenger car VMT	U.S.			-3.4		w	Jan. 30	n/a	DoT
Truck VMT	U.S.			+16		w	Jan. 30	n/a	DoT
All motor vehicle use index	U.K.	+38		-9	+52	w	Jan. 31	91	DfT
Car use	U.K.	+48		-13	+36	w	Jan. 31	87	DfT
Heavy goods vehicle use	U.K.	+7.1		+5	+250	w	Jan. 31	105	DfT
Gasoline (petrol) avg sales per filling station	U.K.	+59		-9.8	+31	w	Jan. 24-30	6,572 liters/d	BEIS

Diesel avg sales per station	U.K.	+24		-12	+75	w	Jan. 24-30	9,247 liters/d	BEIS
Total road fuels sales per station	U.K.	+36		-11	+53	w	Jan. 24-30	15,819 liters/d	BEIS
Gasoline	India	-5.4	+0.2		-12	2/m	Jan. 1-31	2.23m tons	Bberg
Diesel	India	-6.9	-9		-13	2/m	Jan. 1-31	5.63m tons	Bberg
LPG	India	+4.1	+6.5		+4	2/m	Jan. 1-31	2.6m tons	Bberg
Jet fuel	India	-0.1	-41		-18	2/m	Jan. 1-31	415k tons	Bberg
Total Products	India	+0.4		-5.4	+7.7	m	December	18.4m tons	PPAC
Toll roads volume	Italy	+102		+3.7			Dec. 20-26	n/a	Atlantia
Toll roads volume	Spain	+39		-9			Dec. 20-26	n/a	Atlantia
Toll roads volume	France	+28		-5.3			Dec. 20-26	n/a	Atlantia
Toll roads volume	Brazil	+7.9		+0.5			Dec. 20-26	n/a	Atlantia
Toll roads volume	Chile	+51		+27			Dec. 20-26	n/a	Atlantia
Toll roads volume	Chile	+51		+27			Dec. 20-26	n/a	Atlantia
Toll roads volume	Mexico	+20		+11			Dec. 20-26	n/a	Atlantia
Gasoline	Spain	+36			-17	m	January	398k m3	Exolum
Diesel (and heating oil)	Spain	+5.6			-11	m	January	2197k m3	Exolum
Jet fuel	Spain	+149			-12	m	January	330k m3	Exolum
Road fuel sales	France	+12			+4.7	m	December	4.28m m3	UFIP
Jet fuel	France	+64			+11	m	December	507k m3	UFIP
All petroleum products	France	+14		-0.3	+5.9	m	December	4.83m tons	UFIP
Total fuel sales	Italy	+18		+1.6	+5.6	m	December	4.49m tons	Ministry
Gasoline	Italy	+33		+5.4	+10	m	December	644k tons	Ministry
Diesel /gasoil	Italy	+20		+6.6	+7.4	m	December	2.4m tons	Ministry
Jet fuel	Italy	+101		-39	-2.3	m	December	217k tons	Ministry

Jet fuel	Italy	+101		-39	-2.3	m	December	217k tons	Ministry
All vehicles traffic	Italy	+30			-12	m	January	n/a	Anas
Heavy vehicle traffic	Italy	unch			-11	m	January	n/a	Anas
Gasoline	Portugal	+17		-2.5	+8	m	December	87k tons	ENSE
Diesel	Portugal	+10		-3.4	+0.8	m	December	405k tons	ENSE
Jet fuel	Portugal	+77		-23	-14	m	December	91k 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 Jan. 2022 vs Jan. 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 no longer publishing its toll road data as frequently as every week.

City congestion:

Measure	Location	% chg vs avg 2019	% chg m/m	Feb. 7	Jan. 31	Jan. 24	Jan. 17	Jan. 10	Jan. 3	Dec. 27	Dec. 20	Dec. 13
		(Feb. 7)		Congestion minutes added to 1 hr trip at 8am* local time								
Congestion	Tokyo	-18	+467	31	28	32	35	5	1	31	38	37
Congestion	Taipei	-36	-28	23	2	32	33	32	32	43	31	42
Congestion	Jakarta	-52	-42	19	14	31	37	32	26	20	28	30
Congestion	Mumbai	-83	+27	8	13	9	7	7	10	11	14	16
Congestion	New York	+6	+77	33	36	26	4	19	11	5	20	26
Congestion	Los Angeles	-10	+141	32	26	26	8	13	10	6	16	27
Congestion	London	+19	+23	45	43	41	41	37	1	1	13	36
Congestion	Rome	-28	+26	35	25	25	22	28	7	10	44	50
Congestion	Madrid	-49	+50	18	14	16	12	12	2	3	13	23
Congestion	Paris	-4	+18	43	35	34	35	36	19	10	18	46
Congestion	Berlin	-27	-15	25	16	25	29	29	20	9	22	37
Congestion	Mexico City	-100	-100	zero	22	18	15	20	13	11	20	31
Congestion	Sao Paulo	-17	+72	33	28	14	16	19	10	11	23	28

Source: TomTom. Click here for a PDF with more information on sources, methods.
* Mumbai and Sao Paulo use 9am statistics rather than 8am.
NOTE: m/m comparisons are Feb. 7 vs Jan. 10. TomTom has been unable to provide Chinese data since late April. Taipei and Jakarta were added to the table in early December. It was a public holiday in Mexico City on Feb. 7 and in Taipei on Jan. 31.

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.	+109	-1.6	-0.4	+5.5	+4.2	d	Feb. 6	1.79m	TSA
Commercial flights	Worldwide	+35	-20	-22	-4	+3.9	d	Feb. 6	82,087	FlightRadar24
Air traffic (flights)	Europe			-33	-13	+5.6	d	Feb. 6	18,057	Eurocontrol
Seat capacity	Worldwide	+64	-17	-25		+7	w	Feb. 7-13	78.9m	OAG
Seat capacity	North America			-13		+0.6	w	Feb. 7-13	n/a	OAG
Seat capacity	North East Asia			-21		+25	w	Feb. 7-13	n/a	OAG
Seat capacity	South East Asia			-47		+1.8	w	Feb. 7-13	n/a	OAG
Seat capacity	South Asia			-25		+2.6	w	Feb. 7-13	n/a	OAG
Seat capacity	Western Europe			-37		+6.4	w	Feb. 7-13	n/a	OAG

NOTE: Comparisons versus 2019 or versus the early weeks of 2020 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.	+4.1%	-7.4%	-3.9%	Jan. 28	15.2m b/d	EIA
Apparent Oil Demand	China	+2.5%		-3.8%	December 2021	13.65m b/d	NBS
Utilization	U.S.	+4.4	-3.4	-3.1	Jan. 28	86.7 %	EIA
Utilization	U.S. Gulf	+1.7	-4.4	-4.7	Jan. 28	86 %	EIA
Utilization	U.S. East	+19	+15	-3.8	Jan. 28	87.4 %	EIA
Utilization	U.S. Midwest	+6.6	-2.8	-1.1	Jan. 28	91.9 %	EIA

The last two years have demonstrated the large price movements our sector is exposed to. And this winter, the energy realities in Europe has demonstrated the importance of stable and reliable deliveries of gas from Norway. Currently, we see low inventories, low spare capacity, and too low energy investments over time. In the breakout session later, Irene will share some details on what impact we expect.

This complexity in the energy markets adds to the challenge of transforming the energy system, while providing enough energy. The energy transition is necessary, but must also be balanced to ensure energy security and affordability. Achieving the net zero targets of society and industry will depend on growth in renewables and low carbon solutions. We are positioned to create value as these markets develop. With our technology, capabilities and customers, we can shape value chains and grow profitability, all while remaining competitive with low cost and low emissions from production of oil and gas.

As European gas demand surged last autumn, we turned every valve to increase volumes. New measures were taken, and for 2021, we increased our production of gas to Europe by more than 5%. We delivered operational excellence when European wholesales and industry needed it most. And for fourth quarter, we delivered 16.5% more gas to Europe than the same quarter in 2020. This was enabled by operational performance of almost 100% production efficiency on our onshore gas facilities. The strong competence and efforts of our people and suppliers made this possible.

Looking ahead, the global supply chain disruptions and growing inflation are a shared concern for all industries. We will remain focused on cost and improvements and working on mitigating the inflation pressure. We know from experience that we must work closely with suppliers, mature and improve the projects, use design to cost methodology and ensure strict capital discipline. Only sanction projects when they are good enough.

Since the Capital Markets Day last summer, our ambitions are being put into action. We optimized our oil and gas portfolio. Martin Linge and Troll Phase 3 were put on stream, both ramping up successfully. Troll Phase 3 is already paid back and Martin Linge is expected to be paid back during 2022. And on that note, Aasta Hansteen we started production in late 2018 is already paid back as well. Kjetil will elaborate on our progress on the Norwegian Continental Shelf.

We focus our international portfolio on high value assets and have exited six countries and seven assets. Al will share more on the progress internationally, but let me mention Bacalhau. Phase 1 was sanctioned last summer and it's 50% complete towards first oil in 2024. Last year, we made eight commercial discoveries with 125 million barrels of oil equivalent net to Equinor. We focus our exploration strategy on value creation, with prospect near infrastructure with short payback time and low emissions.

Our oil and gas portfolio is expected to create significant free cash flow with an outlook of more than $40 billion in the period 2022 to 2026. And remember, this is in a $65 Brent scenario. In renewables, we continue our progress, pursuing high value growth. In Korea, we have entered into collaboration to develop 3 gigawatt of offshore wind projects. We have secured additional capacity and have a competitive renewables portfolio.

Our flagship projects are progressing with Dogger Bank A and B well on track towards first power in 2024. Dogger Bank C has secured financing and final investment decision has been made. The floating wind farm Hywind Tampen is on track for start up later this year and we support decarbonization of Gullfaks and Snorre.

The competition in the renewable industry has increased over the last years. We remain value-driven and maintain our expectation of real base project returns of 4% to 8%. In low carbon solutions, our technology and competence position us well. We are receiving increased interest from our customers in the development of hydrogen value chains and carbon transport and storage.

In UK, our low carbon portfolio is progressing. We reached a milestone when East Coast cluster was selected as one of UK's first carbon transport and storage project. With the price development we have seen for CO2 in Europe, the market for transport and storage is emerging.

Northern Lights is well on track to start up in 2024 and four potential customers have been granted EU funding for carbon capture. Our ambition is to have a capacity to transport and store 15 million to 30 million tonnes of CO2 per year by 2035.

We have the actions in place to create high value while transitioning to deliver energy in a low carbon future and achieve our net zero ambition. In a $65 scenario, we expect to generate a free cash flow of around $25 billion towards 2026. This means, our return on capital above 14% towards 2030 and speaks to the profitability of our portfolio. We expect more than 30% of our gross investment to be in renewables and low carbon solutions by 2025 and more than 50% by 2030. Over a year ago, we stated our ambition to become a net zero company by 2050. Since then, the pathway to get there has been part of every major discussion and decision. By cutting emissions and increasing our capacity in renewables and low carbon solutions, our ambition is to reduce the net carbon intensity by 20% by 2030 and 40% by 2035.

The world needs deep and rapid emission cuts already this decade to get net zero by 2050. Our efforts are twofold. First, we take action on our own emissions. Second, by developing renewables and low carbon solutions, we will make new business by helping our customers to decarbonize.

Today, we launch a step-up of our climate ambitions, focusing on reducing emissions under our own control. I'm pleased to present our new Group-wide ambition, a net 50% reduction of emissions from our operations Scope 1 and 2 by 2030 compared to 2015. We aim for 90% of this to be delivered as absolute reductions. The new ambition is aligned with the Paris Agreement over 1.5 degree pathway. We are not starting from scratch. Since 2015, we have cut emissions from operations significantly.

Our solid pipeline of abatement measures will help us cut emissions while maintaining high value production from oil and gas. On the Norwegian Continental Shelf, power from shore will be an important contribution. We have several electrification projects in

the level to remain at $5 billion in 2022 when commodity price outlook is strong and the development in the balance sheet is supportive.

In addition, the Board proposes an extraordinary quarterly cash dividend for $0.20 per share for four quarters, starting from the fourth quarter 2021, subject to approval of the Annual General Meeting. The extraordinary quarterly cash dividend is backed by high commodity prices in the second half of 2021 and strong earnings outlook -- second half of 2021 strong earnings and outlook.

The total proposed distribution is cash dividend of $0.20, extraordinary cash dividend of $0.20, share buyback of up to $5 billion during the year, which potentially represent another $0.40 per quarter in 2022. The proposals and required authorizations will be presented to the Annual General Meetings in May 2022. This equates to a total capital distribution for 2022 of up to $10 billion in total, of which around half is expected to be in cash dividends and half in share buybacks. This demonstrates our commitment to offer attractive shareholder returns.

So, let me sum up our main messages. We are on track to deliver on our focused strategy and accelerate the transition. We are progressing our portfolio in renewables and low carbon solutions and have set a new Group-wide ambition of net 50% emission reductions by 2030. In 2021, we delivered strong operational performance, adjusted earnings after tax of $10 billion, and net cash flow of $25 billion. This enabled us to deliver competitive shareholder returns while investing in the energy transition.

Thank you all for the attention and I really look forward to your questions later. And I also have the full my great team with me that will join for the Q&A. So now, Ulrica, the floor is yours.

Ulrica Fearn {BIO 19330081 <GO>}

Thank you, Anders, and thank you all for joining us today on the call today. It's always good to be able to present to our stakeholders, even if it is still via video and I hope that will change soon.

I started at Equinor just after the Capital Markets Day in June and I have after that spend time rapidly learning and bringing to execution the strategy that was presented then. And today is an opportunity to show how we are delivering on this strategy and our ambitions as we clearly demonstrated then and we've demonstrated it again by our fourth quarter and our full-year results.

So let me first focus on these results, but also in the context of the strategy provide you some further details on our portfolio and our financial framework. What we will show today is that we were able to capture higher prices and thereby report record adjusted earnings after tax for the quarter. Oil prices are high, and in the second half of 2021, we saw record gas prices in Europe, with an average realized price of $28.8 per MMBTU compared to 5 a year ago.

We have actively responded to the tight market and increased our gas production in Norway by 16.5% in the fourth quarter and by 5% for the full year, to provide much needed additional supply to industries and consumers in Europe. And the record gas prices combined with our focus on optimizing gas volume paid dividends quite literally.

Meanwhile, underlying upstream unit production cost was stable and we delivered organic CapEx in line with our reduced guidance at $8 billion in 2021. And these factors, all contributed to record cash flow from operations in the quarter of $11.3 billion after tax. And to put this into context, this cash flow more than covers our full-year organic CapEx in just this one quarter.

At our Capital Markets Day in June, we introduced a more flexible capital distribution framework. We have actively used this flexibility by increasing our second tranche of share buybacks to $1 billion in the last quarter and that tranche was completed last week. I'll come on to this framework and how it fits into our long-term financials later on in this presentation.

But starting with production, we talk about value over volume as a strategy and in these market conditions, volume is also value. We have delivered high efficiency and flex production towards the most valuable opportunities. And during the fourth quarter, production in Norway was up 12% year-on-year. Our oil and gas production was up 5.6% or actually near a 9%, if you adjust for the sale of Bakken. So these production results reflect new fields coming on stream, but also high production efficiency on the NCS. Meanwhile, in renewables, power generation increased 10% from 480 to 526 gigawatt hours and we had continued high availability in offshore wind assets and added production from the solar plant in Argentina.

Clearly, these results reflect the stronger commodity prices and as you can see in our realized prices, which increased to an average of over $100 per barrel oil equivalent. Production performance and stable cost per unit also contributed. Reported net operating income of $13.6 billion is over $10 billion higher than a year ago. It includes some $1.8 billion of impairments mainly related to the Mariner field as per our announcement earlier this year.

Adjusted earnings in the quarter were $15 billion pre-tax and $4.4 billion after-tax at an effective tax rate of 71%. The tax rate is reflective of high earnings in E&P Norway, partly offset by losses in our MMP segment. The quarter saw record levels of earnings after tax and record cash flow for E&P Norway and E&P USA. E&P Norway achieved the highest quarterly production volume in nearly a decade and gas production as a percentage of the total increased by -- to 55% as we optimized our gas volumes.

Adjusted OpEx and SG&A per barrel increased 14% in US dollars and increased by around 11% in underlying Norwegian Krona. And now half of this increase is attributable to increased environmental taxes and CO2 cost and the other half was driven by gas led removal costs. Underlying cost per barrel in Norwegian kronas were stable. DD&A per barrel increased by 29% and this is driven by new fields and mainly due to Martin Linge,

second half of 2021, we paid NOK67 billion, leaving a NOK110 billion to be paid during the first half of 2022.

So now let's look at these results and put them into the context of the strategy that Anders already outlined. Execution of our strategy is well underway along all our main priorities, with flexibility to address evolving markets as we progress. Our financial position, as mentioned, is very strong and we capitalize on enhanced value in our oil and gas portfolio whilst transitioning to new growth areas.

Central to our strategy is our ambition of becoming a net zero company by 2050. And today, as Anders mentioned, we take a further step with an ambition of a 50% cut in net carbon emissions by 2030, demonstrating our commitment to make real progress in the energy transition. In addition to this, we will simultaneously deliver strong cash flow and attractive returns as well as providing competitive capital distribution to our shareholders. We think this will be a distinguishing feature for Equinor leading in the Equinor -- in the energy transition. It's easier to do this simultaneously if commodity prices are high, but we believe we have the discipline, the capability, and the financial strength to do so through the cycles, creating a long-term sustainable, resilient, and profitable business.

Before taking you through some of the key highlights and measures across our business, I'll point out that our strategic priorities are connected. We see synergies between our different businesses across operations, capabilities, and technology, but also financial. The strong cash flow from our profitable oil and gas portfolio funds not only reinvestments to further high-grade our oil and gas portfolio, but also disciplined investment in our attractive renewables and low carbon solution portfolios.

So let me start with our advantage portfolio in oil and gas and our key measures. Oil and gas production outlook reflects Equinor's commitment to supply energy for society towards 2030 and simultaneously aim to reduce our mission by 50% over that period. In 2021, the CO2 intensity was 7 kilos per BOE, which continues to be well below half of the industry average. Our oil and gas portfolio is cash flow positive at prices around $30 per barrel after investments. And this ensures resilience through the cycles. This portfolio is expected to generate over $40 billion of free cash flow over the next five years.

I also want to highlight Equinor's commitment to securing gas supplies to the -- from the NCS to Europe and we expect to produce more than 40 BCM annually towards 2026. With flexibility in production and our low cost of supply below $2 per MMBTU, we are positioned to create significant value. Our strong pipeline of development projects coming on stream by 2030 provides a solid outlook to deliver around 6.5 billion barrels of oil equivalents net to Equinor with low breakevens at below $35 per barrel, high returns of around 30% internal rate of return, fast paybacks of two and a half years on average. And this portfolio gives us the flexibility to deliver and further high grade. So Johan Sverdrup Phase 2 reflects this strong position very well. It's on track to start up later this year, adding 220,000 barrels a day at an operating cost below $2 per barrel and a CO2 intensity below 1 kilo of CO2 per barrel oil equivalent.

In order to be a leader in the energy transition, we are leveraging being an integrated energy company and are scaling our renewable and low carbon solutions businesses. Both are built on our capabilities and operational competitive advantages, funded by the oil and gas. You see here strong pipeline of projects from the high value growth in renewable. We presented our guidance around growth in renewables at the Capital Markets Day in June. So these numbers will be familiar. We are on track to deliver. The list of projects reflects the pace of development and mix of opportunities towards these ambitions and Pal will go into more in this on detail later.

We're also financially positioned to ensure long-term returns. Applying strong capital discipline and leveraging our financial position enables us to utilize the most attractive financial structures and effectively manage risk, such as merchant, inflation, interest rate, and foreign exchange.

We have talked consistently about the importance of flexibility and focus on costs. We have several examples on how we've optimized our gas portfolio to capture valuable opportunities and such an example is Aasta Hansteen. On Aasta Hansteen, we saw high production regularity of around 99% in the fourth quarter. We also increased capacity and production efficiency by utilizing the Integrated Operation Center, the IOC. With these combined elements, we capitalized on strong markets and investments were paid back both before and after-tax in the fourth quarter.

Even with today's strong results and high commodity prices, discipline remains critical. It's a mindset we keep and we have been driving across the business. The focus on cost can be seen as critical in the downturn, but it's just as important to capture these benefits in the upturn as we enter into more uncertain capital and supplier markets. And today, we reiterate our improvement ambition of $4 billion by 2025 as announced in June and we are on track to deliver. In 2021, we have realized more than $1.8 billion in improvements. We are delivering on our ambition for low unit production cost of around $5 per barrel oil of oil equivalent. And Arne Sigve will talk a little bit more about this and our clear actions that we're taking later on in his section.

So turning to our financial framework, here we help quantify and show the robustness of our cash flow from operations using the price scenarios of $50, $65 and $80 for Brent and reflecting gas prices of $22 per MMBTU in 2022 to $7 in 2024 in the $65 case. The bars in the graph highlight the robustness we have through the scenarios covering our CapEx at $50 in all periods. In the low $50 sensitivity scenario, we could of course also flex our CapEx, noting the high level of non-sanctioned CapEx in the '24, '25 and even more so from 2026 onwards.

With this strong financial position and the cash generated in mind, I will take you through the way we look at capital allocation. Firstly, our capital expenditure reflects a full program delivering the advantage portfolio I have just outlined across both oil and gas, renewables and low carbon solutions, balancing and delivering on our high value, low carbon ambition, whilst maintaining capital discipline and flexibility through the cycle. We have a high activity level and are able to move forward at pace and with efficiency. So we continue to look for opportunities to invest high grade and optimize this portfolio. And our guidance and ambitions, though, are based on organic opportunities. We do not see

Q - Biraj Borkhataria {BIO 17234528 <GO>}

Hi, there, thanks for taking my question. So the first one is on shareholder distribution. This year's free cash flow is obviously very high given where oil and gas prices are and then you have the lagged tax effect. I'm just trying to understand that, given where the balance sheet is also and that you're likely to deleverage further in the short term, going forward, should we assume that shareholder distribution should be sort of equal to free cash flow or even potentially greater than free cash flow? I'm just trying to see how you balance that kind of framework and with your gearing targets of 15% to 30%, it will be way below that even with the buyback and the special dividend.

And then the second question is on low carbon and your CapEx framework still points to rising CapEx profile in that space. I was probably a little bit surprised not see your name in Scotland Wind. So maybe you could give a bit more color on the competitive dynamics in that space. You did touch on it, but whether anything has changed in your view there, both in terms of the opportunity set and also the intensity of the competition. Thank you.

A - Anders Opedal {BIO 19113653 <GO>}

Yeah. Thank you very much for the question and that also for the final question regarding ScotWind Pal also will like to chip in a little bit. But let me start first with the capital distribution. The way we think around this is that we -- as I alluded to earlier, we grow the cash dividend in line with long-term underlying earnings. And with the capital framework we provided to you during the Capital Market Day, we said there is flexibility to grow this further for the share buyback with the criteria given. I think you have seen that we have demonstrated now in the third quarter and now also for the fourth quarter that we are using that flexibility based on the earnings and the outlook. So we will continue to look at the outlook, the underlying earnings, and come back to the different announcement at different quarters.

You want to allude a little more to the cash.

A - Ulrica Fearn {BIO 19330081 <GO>}

I can add a little bit to the comment around delayed tax payments and that's absolutely correct, the earnings this year will have -- will trigger large tax payments next year. Of course, we are taking the long-term view into consideration when we look at the capital distribution. So that's what our capital framework allows us to do is to step back, look at a bit more longer-term and say, here's what the holistic environment looks like, both the commodity prices and the macroeconomic environment and our outlook, taking into account the cash flows that we're expecting and then we make the decision from that spot. Yes, absolutely, next year, we will see the impact from those larger tax payments and that's been taken into account.

A - Anders Opedal {BIO 19113653 <GO>}

And for the competition in the renewables, yes, there is higher competition, but also I want to remind you of the very, very good portfolio we already do have in execution. And we are focusing very much on delivering that portfolio now. We are focusing on also bringing some of the projects that are -- we have taken concept selection on, like Empire

Wind and bring that up to final investment decision, but we are also looking into access more acreage and this is a competitive area.

And Pal, please add.

A - Pal Eitrheim {BIO 6476806 <GO>}

Yeah. So to your question, I think the competition was confirming something that we have already seen in quite a few auctions recently and I think more than 70 companies were actually competing for ScotWind. So, yes, obviously I was -- I don't like losing. So I was a bit disappointed that we didn't follow through. I think our people delivered a really good bit, but it doesn't really change the pathway that we're on. We are saying today that we have access to around two-thirds of the pipeline that we need to deliver on the ambition. And I think we can actually -- we have a pipeline now that I think gives us the privilege of being quite disciplined and if we can actually afford to be disciplined. But we are going to compete fiercely going forward. We haven't got a formal debrief from the Scottish authorities yet and we would like to see that to understand why we didn't -- why we were not successful in that round and then use that with the aim to improve.

A - Anders Opedal {BIO 19113653 <GO>}

Thank you, Pal. And also for the visibility for the extraordinary dividend, this is now declared for the four and next quarter.

A - Peter Hutton {BIO 4669968 <GO>}

Thanks, Biraj. Next question is from Oswald Clint at Bernstein.

Q - Oswald Clint {BIO 15170269 <GO>}

Yes, good afternoon. Thank you very much. Yeah. Perhaps just a simple one on -- again on distributions. Could you just talk about why you selected the extraordinary dividend this time. You've given us a full suite of distribution options. So why the special dividend. And obviously, it could have been funded through the buyback in the balance sheet anyway, so that's the first one.

And then secondly, a good strong message, Anders, about customers which I hear from you today and also talking around your carbon capture, your transport, your hydrogen, your -- the 15 million to 30 million tonnes per annum by 2035 is still the same as last summer. So is that just giving you confidence in rolling out that type of business? Could we start to see more developments or even more CapEx going into that particular direction? And perhaps in your response just remind us, I guess, of the revenue model, some of the assumptions you're taking here to make the economics work around this transport carbon business. I see your comment here about customers receiving subsidy, so that would be great to hear your thoughts. Thank you.

A - Anders Opedal {BIO 19113653 <GO>}

Yeah. Thank you very much for your question there. We want to -- we are investing our cash in a very profitable portfolio, but we also want to then distribute competitive

dividend to our shareholders and we -- to have optimizing our capital structure, we have found a balance between both cash dividend and share buybacks. And we -- there are different choices -- then options from the different investors and preferences. So we have looked into both the long-term underlying earnings and grow that annually as we always do and announced in the fourth quarter, we have increased our share buyback, but we also saw that there are room for more capital distribution this year for optimizing our capital structure. And we decided to propose for the next four quarter a $0.20 extraordinary dividend.

You're right, the customers are more and more interested to talk to us about carbon capture or the transport and storage that we are mostly in. And this is of course because of the increasing ETS and the CO2 tax that we have seen lately. I would like Irene to allude a little bit more on the kind of the options that we have built since the last time we discussed this at the Capital Market Day. But the higher CO2 taxes, the customers moving into more and more finding solutions for reducing their CO2 they are meeting, make me more and more confident about the target and ambition we set on the Capital Market Day.

So Irene if you allude a little bit more on the projects and how this is developing.

A - Irene Rummelhoff {BIO 18753279 <GO>}

Well, happy to do that. As Anders said, there is significant increase in interest from customers and two types of customers particularly. I think industrial customers like steel companies, ammonia, fertilizer and all of that, they will commit to net zero in 2050. They don't really have alternatives other than carbon capture and storage as of the day. The other customers we're seeing are power plants. I think the whole energy crunch we've seen in Europe these days means that we need more dispatchable power and CCGTs with carbon capture and storage is coming up as the savior in this picture. And we have a lot of incoming calls. And as Anders alluded to, CO2 prices we offer way for these customers to basically hedge their CO2 price by paying as a tariff for storing and transporting it. So it's exciting. Right now lots of call from -- and it's you also asked about the economic assumptions. And I think we said at the Capital Markets Day that come 2030, we should be able to capture transport and store CO2 below EUR100 per tonnes and we also said then that we expect the (inaudible) price to be in that range, but we're seeing hitting those kind of marks already today.

A - Peter Hutton {BIO 4669968 <GO>}

Thanks, Irene. And thanks, Oswald. Next question is from Anders Holte of Kepler.

Q - Anders Holte {BIO 16985833 <GO>}

Thanks, guys. Thanks for taking my questions. Congrats on a decent quarter we have to say. (inaudible) simple one that's directed to Pal in terms of -- and it's related to offshore wind. You touched upon the increased competition in Scotland as quite fierce, but I think we all saw that, but I guess just on a broader sense like how do you view the outlook for offshore wind projects that you haven't sanctioned in light of the cost increases seen in more or less all parts of value chain? One thing is projects, but you have signed contracts

A - Anders Opedal {BIO 19113653 <GO>}

Are you talking about the RRR coming down, is that your question?

Q - Lydia Rainforth {BIO 6283340 <GO>}

Yeah. So in terms of, if I look at the slides, I think the RRR was actually 113% I think for the year, but then the resource number seem to have fallen relative to last year. So I'm just wondering why that was?

A - Anders Opedal {BIO 19113653 <GO>}

Well, from last year, we have increased this number. So this is a strong number of 113%. And also the RRR has also increased during this year. When it comes to the pace of renewables and low carbon solutions, we have guided that on the -- in 2025, we'll see that the gross CapEx will be above 30% and then it move to 50% of the totality in 2030. But we will see the renewables CapEx ahead of the low carbon solution CapEx. Irene is now developing a very long and interesting project portfolio. Not all of them will probably progress to a final FID. But many of them are very interesting and that probably start coming more in FID in '24, '25. We'll see maybe before some of them and but -- they -- the majority of hydrogen and CCS will come a little bit later than the renewable business.

Q - Lydia Rainforth {BIO 6283340 <GO>}

Great, thank you.

A - Peter Hutton {BIO 4669968 <GO>}

Thanks, Lydia. Next question from Teodor Sveen-Nilsen at Sparebank Global Markets.

Q - Teodor Sveen-Nilsen

Good afternoon and thanks for taking my questions and also congrats on very strong results. Two questions from me, if I may. First on gas strategy. Have you been tempted to sell more gases off to the forward compared to your stated strategy of selling 70% spot? Second question is on tax payments. Ulrica, you said that you expect cash tax payments to come up big here, of course. Are you in a position to guide specifically on the cash tax payments over the next few quarters? That will be useful. Thanks.

A - Anders Opedal {BIO 19113653 <GO>}

Okay. Thank you, Teodor. So maybe, Irene, you can elaborate a little bit on the gas strategy and how we think of that. But I also have to underline, the operational excellence in the gas enable us to capture really the prices. And then also the gas strategy is important part of how we capture prices.

Q - Peter Low {BIO 20495723 <GO>}

You might recall the pre-2019, we actually sold our gas on mix of short-term and long-term indices, but we highlighted that we expect more volatility going forward and change that strategy to 70% day ahead and 30% month ahead. So I guess your question is, should we go 100% day ahead. I think 100% is probably not possible logistically and also the months

ahead prices capture more of the spikes than of course season ahead prices as well. So I think if you compare our realized prices to the day ahead in the P, [ph] we're pretty close, but not perfectly there. So I think we're quite happy where we ended up. And if you look at the last two years, I think we've actually made several billion dollars by introducing this new strategy compared to where we would have been with the pre-2019 strategy.

A - Anders Opedal {BIO 19113653 <GO>}

Thank you, Irene. Ulrica, tax?

A - Ulrica Fearn {BIO 19330081 <GO>}

Yeah. Very short answer to that to referring to 2021 just to remind us that we've got the full year Norwegian Krona tax is 177 million of which we've got -- which is what I referred to before, which we've got about NOK110 billion left to pay in the first half of next year. And of course, when it comes to 2022, we won't go into those taxes now.

A - Anders Opedal {BIO 19113653 <GO>}

Hopefully more.

A - Ulrica Fearn {BIO 19330081 <GO>}

Exactly, it's a good thing. It's a good thing this problem. It's the lag that makes it a little bit more difficult to calculate, but it's pretty straightforward. Six months delay on big earnings and that's what we're paying for in this half we are in now.

A - Anders Opedal {BIO 19113653 <GO>}

And just a reminder on that one, we will pay one-third of that NOK110 billion in the first quarter, and two-thirds of that NOK110 billion in the second quarter.

Operator

Next question -- and thanks, Teodor. Next question is from Mehdi Ennebati at Bank of America.

Q - Mehdi Ennebati {BIO 15911150 <GO>}

And first I would like to congratulate you for this extremely stronger results. Two questions, please, on my side. First one, regarding your balance sheet. So now that you have a very strong -- what prevents you from clearly accelerating your energy transition? So you highlighted that we don't want to over-pay. I understand this. But what prevents you, as well, from acquiring a renewable energy company? Is it just a matter of valuation if those renewable energy company valuation keeps falling you might be looking at it or do you think that you would either prefer to develop your own project, even though this will take much more time realizing an acquisition?

And the other question is about your free cash flow estimate, the one that you provide for 2022 and 2023. So there is a slide where you show what will be the free cash flow

generation of $80 Brent. And on another slide I can see for 2022 you expect European gas to be $30 per MCF. Am I right there? Because during the presentation I also heard $22 per MCF which could be the average for 2022 and 2023? So are you expecting $30 per MCF in '22, meaning even both the forward curve and what makes you so, let's say, optimistic on gas price for 2022?

A - Anders Opedal {BIO 19113653 <GO>}

So, Ulrica, if you -- the second question, and, yes, we have a very strong balance sheet, and -- but we also have a very strong project portfolio, both in oil and gas and renewables. We have accelerated the investment in renewables already organically. We do not have any strategic gap in our portfolio. We will of course be opportunistic in any kind of M&A activity, but at the same time, we will focus on same as we focus on value in our organic portfolio. We will also do that for any inorganic moves as well. So we are quite comfortable with the portfolio we have today and also the kind of how strong this portfolio already is.

A - Ulrica Fearn {BIO 19330081 <GO>}

And I'm not sure 100% I understood the question. If it was what our gas assumptions were in the $80 case, then in 2022 it's $30 as you said, '23 $18 and thereafter $12, but did I understand that question correctly?

A - Anders Opedal {BIO 19113653 <GO>}

And then in the $65 which is the central case, it's '22 and going down to I think...

A - Ulrica Fearn {BIO 19330081 <GO>}

$12 and then $7.

A - Anders Opedal {BIO 19113653 <GO>}

So these are scenarios, they are not necessarily forecasts.

Q - Mehdi Ennebati {BIO 15911150 <GO>}

Okay, understood. That's very clear. Thank you very much.

A - Ulrica Fearn {BIO 19330081 <GO>}

Thank you.

A - Peter Hutton {BIO 4669968 <GO>}

Thanks, Mehdi. Next question is from John Olaisen at ABG.

Q - John Olaisen {BIO 4949660 <GO>}

Yeah, good afternoon, everybody. A question on 2022 production guidance. And may I ask, what are your assumptions for Norwegian gas production? I just wonder, if prices

extraordinary dividend, that is $0.20. You add those up, it's not $0.27, it's $0.80 per share. Then the second question was around the capital..

Q - Christyan Malek {BIO 7136785 <GO>}

Just trying to -- sorry, I was just trying to refer to the basis or the financial cases to why not raise the underlying dividend versus the special and it's not -- it's more just in terms of just $0.40 and then clearly you are saying that the macro is clearly volatile and therefore you'd rather take a measured approach through special versus an underlying base increase, is that, just to be clear, how to see it?

A - Anders Opedal {BIO 19113653 <GO>}

This is, as I said -- this is the way to have a predictable framework, but also a framework that is flexible in terms of changes in the commodity prices, but as Peter said, when we announced the $0.18 cash dividend, we added $1.2 billion in the share buyback, which adds up to the $0.09 back to the $0.27.

Q - Christyan Malek {BIO 7136785 <GO>}

Sure. That's fair. And the second question, sorry, I need to get new AirPods, maybe that's (inaudible) But I wanted to just ask around the industrial logic or around build versus buy in the renewable space. And I think down the road, we could see major inflation, cost overruns and obviously with a very commoditized price environment given $2 trillion is just trying to find a home in this space. So with that sort of backdrop, assuming maybe I'm wrong, but fast forward two or three years, I mean, you're in that cash position, but I know this was asked already, but we just want to understand what is the industrial logic to build versus buy if that scenario were to play out? Would you consider revising how you think about your pipeline? Or -- and I know you talk value about the value, but equally we could see a very different picture in terms of returns if we see (inaudible) if it ultimately becomes diluted.

A - Anders Opedal {BIO 19113653 <GO>}

Okay. Yeah, hopefully I heard the question right. Just also a reminder, we were very early out in the renewable space, being able to capture a lot of space early at very favorable prices and these projects are now in execution. Of course, we have seen, as Pal alluded to earlier in a question, that there is much more competition, now we see much higher prices. And of course we have noted the change in valuation for equities in this space as well. But as I said, we have a very strong portfolio. We don't have any strategic gap. We are focusing on delivering our projects organically in this space now and we will always focus on value, both on the inorganic and the organic development of the renewable port folio. But as you saw some time ago, we bought Wento in Poland, a solar company that is now developing very well under Pal's leadership.

Q - Christyan Malek {BIO 7136785 <GO>}

Okay, thank you.

A - Peter Hutton {BIO 4669968 <GO>}

Thanks, Christyan. Next question from Peter Low at Redburn.

Q - Peter Low {BIO 20495723 <GO>}

Hi, thanks for taking my questions. The first one is another one on the European gas market. I was interested how you do see it evolving this year and I think you mentioned in the presentation, you do expect greater volatility going forward. What could Equinor do to benefit more from that? And then just kind of linked to that, on the higher gas production you achieved in 4Q, how long can you sustain output at that high level in theory? Now I appreciate in practice it would depend on price, but are there any technical constraints on maintaining it at that level? Thanks.

A - Anders Opedal {BIO 19113653 <GO>}

Yeah. When -- in -- Irene will also present in a breakout session a little bit outlook on the European gas, but maybe you can also do that here now as well. But before that, we are producing at very high level of gas. We are producing at max capacity. It's now about making sure that we have high production efficiency, keeping the production up and we have developed the Troll Phase 3, which gives us a lot of flexibility to ensure that we can keep the production stable for a long time. So -- but Irene first and then Kjetil a little bit also on your gas production capabilities. Yeah, I know you're eager, so I'll allow you to answer, but...

A - Irene Rummelhoff {BIO 18753279 <GO>}

No, I'll limit myself to the gas market. We're actually quite bullish near term. It's basically all about Russia these days. They're not sending the volumes we expected and there is lots of nervousness in the market around Nord Stream 2, Ukraine crisis, et cetera. We've seen some LNG being freed up from Asia as a result of demand destruction and has softened the prices a little bit, but notably nothing of that LNG that came into -- went into storage. So when you look at the storage just today, they are 34-ish percent of normal levels, which means that we need to inject 80 VCM approximately in the summer. That's twice our production actually. So it's a big number. So that will keep up prices over the summer and well into the winter, and probably also into the 2023.

You also asked how can we capitalize on this. I think we've had record high gas trading results this year. We have that flexibility in our pipeline infrastructure. So we use that to trade around and it's generated significant value. We also see the volatility in the power market, which is also reflected in the gas market than Danske Commodity as Ulrich alluded to a record high result then. Actually the result this year is half the value of the original or more than half the value of the original acquisition price. So I think our trading capability is worth pointing to in this setting.

A - Kjetil Hove {BIO 22043662 <GO>}

Yes. I think as Anders alluded to, we are producing now more or less at max capacity of the facilities that we have. Of course, there are always small optimization that we are looking into, but I think that's where we are. And that's also the plans within this year. However, during the summer months, there will be turnarounds. Oseberg will have a

U.S. GAAP basis for the fourth quarter of 2021, NOV reported revenues of $1.52 billion and a net loss of $40 million. For the full year 2021, revenues were $5.52 billion and a net loss of $250 million. Our use of the term EBITDA throughout this morning's call corresponds with the term adjusted EBITDA as defined in our earnings release. Later in the call, we will host a question-and-answer session. Please limit yourself to one question and one follow-up to permit more participation.

Now let me turn the call over to Clay.

Clay C. Williams {BIO 14004815 <GO>}

Thank You, Blake. For the fourth quarter of 2021, NOV's revenue grew 13% sequentially and 14% year-over-year. These results mark the first quarter in which our revenue has increased year-over-year since our revenues bottoms in early 2021 and our backlog bottomed in late 2020. The company continued to build its backlog which increase for the fourth quarter in a row. Book-to-bill was 137%. For the full year 2021 NOV generated $229 million in EBITDA or 4.1% on $5.5 billion in revenue. Revenues decline 9% from the prior year at 21% decremental EBITDA leverage year-over-year.

While we are pleased with the slow but steady recovery of demand and activity in the oil field, and our continued revenue and backlog growth, we are disappointed in our low sequential operating leverage and margins in the fourth quarter. Consolidated EBITDA leverage was only 7% sequentially, nearly 20% lower than we expected at the time of our call. All three segments struggled this quarter with supply chain challenges that we did not foresee along with mix issues and COVID disruptions related to the emergence of Omicron variant during the fourth quarter.

And while we expect these to subside longer term, we now expect supply chain headwinds to continue to persist through the first half of 2022 as our vendors continue to push out their delivery commitments to us. In addition to COVID related charges of $11 million on projects that the completion and production solution segment is executing in Asia, our productivity and efficiency was broadly encumbered by two significant factors. First, the tightening labor market we face in the United States was exacerbated by COVID outbreaks in certain plants during the fourth quarter, as skilled workers recuperated safely at home, their work was performed by less experienced, less efficient crews or by other skilled workers working overtime.

Labor shortage has led to higher product costs and scheduling headaches. We had the same issues at plants in the Middle East and elsewhere overseas and we saw pockets of Omicron and COVID affecting our field personnel in a few areas around the globe. These COVID disruptions intensified greatly with the emergence of the Omicron variant in the fourth quarter and are continuing into the first quarter of 2022. Second, our manufacturing scheduling headaches were compounded by component and raw material shortages and late deliveries from our vendors, who are facing the same sorts of challenges that we are, late deliveries and short shipments of raw materials and subassemblies led to further and efficiencies under absorption and higher product costs in certain areas as our creative work for scrambled to make do with the raw materials and components that they had on hand.

Indicative of supply chain inflation, all three segments saw negative purchase price variances. And where we were unable to access raw materials where possible we substituted different more expensive components into our bills of materials, these substitutions frequently required additional labor to conform the parts to our standards which further increase the cost, all three segments experiences to a greater or lesser degree. Some businesses report supply chain challenges are getting a little better but most see these disruptions persisting or getting more challenging in the near-term. Specifically, freight, steel, certain epoxies appear to be stabilizing, resin prices are falling in Asia but rising in the United States for example.

But electronic components motors, touch screens, certain polymers et cetera appear to be getting tighter. The reliability of raw material deliveries is frankly poor as ports and truck shutdown unexpectedly due to COVID outbreaks. Some of our industrial customers in the cap segments are delaying purchases of fuel handling piping industrial pumps because they can't get construction crews to do the installs or they're still missing other complimentary items like electronic controllers from other vendors.

Importantly, NOV continues to take extraordinary measures to get our products and equipment into the hands of our customers to support their critical operation. So despite these challenges, we were able to put up double-digit sequential sales growth across all three segments. I'm proud of the job our manufacturing team has done getting products out the door. However, we need to do a better job on pricing and anticipation of more inflation that we know is coming.

As we enter 2022, we are operating in the most constrained and inflationary environment the world has seen in at least a generation, where labor and materials are tight and the money supply has ballooned across major economies due to COVID relief efforts. Even though we have been trying to push our pricing higher to defend our margins, we have been less successful so far than we need to be. On prior quarters, we spoken of select price increases that we were able to achieve, including many double-digit moves.

Nevertheless, our fourth quarter results point to the need to redouble our efforts to get to acceptable margins. We believe the margins embedded in our backlog are solid and the future costs within our contracts are generally protected against inflation through either indexing or contracts with our vendors. However, inflation protection is never perfect, headwinds like quadrupling a freight, higher labor costs, workforce disruptions and vendor delays can still impact our margins on these as they did in the fourth quarter.

We're fortunate in that we were able to secure sufficient backlog to carry our plants to the depths of the downturn. However, looking ahead is incumbent on our team to win incremental orders that improve margin and pricing to get back to an acceptable return on capital. In the near-term, pricing remains challenging for many of our products owing to our position in the oilfield food chain. High commodity prices are leading to abundant prosperity for the E&Ps for products that we sell directly to the E&Ps, our transactions have more room for -- to achieve a fair split of the economic pie, meaning we are better able to move prices up.

However, prosperity rolls downhill in the oil field and it hasn't fully showed up yet with oil field service companies, who make up the majority of our customer base. As a group, most are still working through depressed pricing for their services. For example, leading-edge super-spec land drilling rig rates for North America have only this quarter return to the mid $20,000 per day level seen before the pandemic lockdown, but contractors have most of their fleets contracted for the next few quarters at much lower rates. Leading-edge coiled tubing and pressure pumping rates have bounced off 2020 lows but remain below 2019 levels. Offshore drillers are seeing their rates rising for drill ships with leading-edge discussions above $300,000 per day and some closer to $400,000 per day, but most rigs remain contracted at very depressed day rates far below level seen a decade ago.

Our customers report that things are definitely going the right way but more healing is needed before oil field service contractors can open up their pocketbooks and spend more freely within NOV. And in the meantime, our competition in many instances remains desperate[ph] for work to cover their fixed costs. The good news for NOV is that the stage is set for prosperity to trickle down soon to our level. The world is facing a tightening supply and demand gap for energy after years of underinvestment in current global activity levels are insufficient to bridge that gap. Commodity markets are waking up to the fact that the world consumed a billion barrel inventory overhang that we generated during the lockdown of 2020 in less than 15 months. NOV is very well-positioned to benefit from investments which are required and are expected to flow in our traditional oil and gas markets over the next few years.

In addition to operating in one of most constructive commodity price environments I've seen in my career, which should lead to a multi-year up-cycle, NOV has a lot of things going well. Wellbore Technologies are earliest cycle segment and closest to the prosperity oil companies are currently enjoying posted its fourth quarter in a row of double-digit top-line growth propelled by the continued recovery of U.S. drilling and emerging eastern hemisphere activity. Given this proximity to the E&Ps in the oilfield ecosystem and it's activity driven product portfolio, Wellbore Technologies is best positioned to benefit from pricing early in an up-cycle. Notwithstanding its own supply chain challenges, it has in fact achieve the greatest pricing gains mostly in quick-turn high-impact items like bits, downhole tools and rig instrumentation specified by E&Ps.

Unfortunately, the fourth quarter saw some of these pricing gains offset by COVID and labor shortages in our labor intensive tubular services businesses, higher resin and steel costs and a lower margin mix of drill pipe than we expected. Jose will go into this more in just a moment. Owing to extensive supply lines and operations in Asia and acute raw material supply challenges across a couple of its business units, our completion and productions solutions segment has been our most challenged with respect to achieving an acceptable margin. Most of its project charges stemmed from a COVID outbreak in our vendors operation in Southeast Asian shipyard, which led to inefficiencies higher costs and rework.

We currently expect this project to be completed late this summer barring further disruptions. Our fiberglass systems and subsea flexible pipe businesses also continue to fight for raw materials and are experiencing significant challenges with their respective

https://www.blackrock.com/ca/investors/en/transition-investing

A FRAMEWORK FOR OUR CLIENTS

How to invest in the net zero transition

Dear Client,

We are writing to you as a client who has expressed interest in the net zero transition. As the transition becomes increasingly pivotal to your long-term investment goals, it is our responsibility to help provide you with the answers and the tools you need to help address it in your portfolio. The choice of how to approach the transition, as always, remains with you, and as your fiduciary, we commit to helping guide and advise you as it unfolds.

We are hearing a range of questions about the transition from clients – how do I safeguard my portfolio against physical risk and transition risk? How do I measure and implement my net zero commitments? Which companies will thrive in the transition and which won't? How do I capitalize on the promise of new technologies? How will different hydrocarbon companies adapt to the transition and how will that impact my portfolio? These questions are of growing importance to long-term investors – but also difficult to answer as the economy undergoes such a profound transformation.

Decarbonization is proceeding at different speeds across different parts of the economy and the world. The shocks we see in the energy sector today are one example of the challenges the transition poses. Increased investment in the supply of renewables outpaced the reduced investment in fossil fuels. Now, increased demand for fossil fuels in the restart of economic activity and impaired supply have driven up the price and use of gas, oil, and coal. There will be periods like this when traditional energy performs well – periods that should not be seen as counter to the transition, but as part of it.

At the same time, the net zero transition is also advancing. The share of countries committed to net zero has swelled from less than 10 percent to 95 percent of global emissions. In the beginnings of a tectonic shift[1] of capital, investors have moved their money into sustainable investments at six times the growth rate of traditional investments, with assets globally now totaling $4 trillion across all ESG categories.[2] And there has been striking change across carbon-intensive industries, from energy to heavy industry to agriculture, to decarbonize and remake their businesses.

The speed and shape of the transition are deeply uncertain, and it will take decades to play out. It is essential that governments, businesses, and finance work together to manage the transition in an orderly fashion, ensuring reliable energy supply and cost along the way.

The ambition and effectiveness of government policy will be a major factor in determining the future role for hydrocarbons. Effective, long-term planning is necessary to deliver cost-efficient clean energy alternatives at scale. Without it, hydrocarbons will continue to play a central role in the global economy for a much longer time. To date, public policy has primarily focused on limiting hydrocarbon

supply but has not done enough to address demand – for example, by retooling energy-intensive industries or accelerating adoption of zero-carbon energy sources – resulting in higher energy prices in some instances. And as we have seen in emerging markets, rising natural gas prices can also drive increased use of coal.

Today there is a significant degree of uncertainty about the transition. The issue, however, is no longer *whether* **the net zero transition will happen but** *how* **– and what that means for your portfolio**. Our focus on understanding the *how* of the net zero transition is driven, as always, by our role as a fiduciary. It is based on our abiding conviction that long-term investors must consider the implications on their portfolios of both physical climate risk and the transition to net zero in the real economy, and that by taking these factors into account, they can more effectively manage risk, seize new investment opportunities, and achieve better long-term returns. We delve deeper into these topics in a new paper from the BlackRock Investment Institute, "Managing the net zero transition."

We hope to answer your questions about the transition and offer you a comprehensive set of options to help you address them – whether it's tilting your broad market strategies to be more climate-aware, investing in carbon-intensive companies that are transforming their businesses, or gaining exposure to the new technologies and business models of a net zero world. We are committed to providing the full range of investment choices to help you find the best path for you and your stakeholders, and regardless of which approach you choose, we are profoundly excited to help you navigate this transformation.

We have taken a number of steps over the past two years to help you address the transition: integrating ESG risk considerations into our active investment process, introducing more than 200 new sustainable funds, building Aladdin® Climate to help you understand physical and transition risk in your portfolio; forming Decarbonization Partners to invest in innovative decarbonization technologies and businesses; and establishing a heightened scrutiny framework to help manage exposure to climate-related risk in active portfolios.

We are working to help address some of the most difficult questions in decarbonization. Our Climate Finance Partnership, a global consortium of governments, philanthropies, and institutional investors, is focused on investing in climate infrastructure in emerging markets. And the BlackRock Foundation has partnered with Breakthrough Energy Catalyst, in order to help increase the commercial viability of critical climate technologies.

We have also taken action to increase transparency for our clients, including publishing **implied temperature rise metrics** for our ETFs and public index funds. You can read a more detailed update **here**.

In 2022 and beyond, we aim to:

- Build and deliver the **industry's most sophisticated transition tools, analytics, and portfolio advice**, powered by Aladdin and designed to help investors to invest amidst high uncertainty about the pace of change in policy and the real economy.

- Offer you a **framework** for thinking about how to invest in the transition – a spectrum of "*navigate, drive, and invent.*" With capital already flowing fast to green technologies, we believe there is also a significant investment opportunity for managers who can identify the carbon-intensive companies with the best strategies for decarbonization.

- **Establish a new capability** to bring together BlackRock's efforts focused on transition finance and to incubate transition-focused investment strategies.

Helping guide you through the transition

Clients have long expected their asset manager to have a sophisticated understanding of the direction of interest rates, inflation, and macroeconomic growth. Increasingly, they expect the same sophisticated understanding of the net-zero transition.

For investors to navigate the transition, they need to be able to measure and model it. That's why we have been building Aladdin Climate – a collection of data, models, analytics and tools to help investors understand, report, and act on physical and transition risk in their portfolios and capture related opportunities.

Aladdin Climate analyzes how securities and portfolios are impacted by and contribute to forward-looking climate scenarios and decarbonization pathways. The technology integrates these analytics into a platform that investors use to manage risk and investments. These climate metrics are delivered alongside traditional financial metrics and portfolio construction capabilities, providing investors with a consistent way to evaluate risks and identify new investment opportunities.

Starting with Aladdin – and drawing on BlackRock's proprietary insights and tools across public and private markets, we aim to build the industry's clearest map of how the transition is likely to unfold across technologies, sectors, and regions. The **BlackRock Transition Scenario** will put our analytical and modeling capabilities at the fingertips of portfolio managers and clients to help illuminate the path to navigate, drive and invent the transition.

We are also augmenting our sustainable investing capabilities through tools such as BlackRock Sustainable Investing Intelligence™ – our proprietary framework that goes beyond traditional financial accounting metrics to identify companies best prepared to mitigate risks and capture opportunities associated with the transition.

In addition, BlackRock Investment Stewardship's engagement with companies about their transition plans is an essential aspect of informing our views on the transition and promoting long-term value for our clients. We ask every company to help its investors understand how it may be impacted by climate-related risk and opportunities, and how these factors are considered in a manner consistent with the company's business model and sector. BlackRock Investment Stewardship **Global Principles** contain further details on our approach.

A transition framework: navigate, drive, and invent

After hundreds of conversations with clients to inform our thinking, we have developed a framework to help you achieve your investment objectives as the transition unfolds. While we offer you a variety of ways to approach the transition, all of them recognize that a clear understanding of the transition is vital to achieving better long-term returns.

Markets are already bearing this argument out – for example, our research has shown that more sustainable companies are seeing their cost of capital fall. And while short time periods are not determinative, it is striking that in 2021, 70 percent of a selection of broad-market ESG indices outperformed their non-ESG counterparts, with average outperformance of over 100 basis points.[3]

However, we also believe that markets are only beginning to price in the effects of the climate transition on asset prices, creating a significant opportunity for our clients. Indeed, understanding sustainability characteristics is key to our ability to generate alpha, and as the transition accelerates, an understanding of these characteristics will be even more pivotal to outperformance.

Navigate

At the center of any sound investment approach is an understanding not only of how the world looks today, but how it might look tomorrow. That question increasingly hinges on understanding the net zero transition – and having the right approach to navigate it effectively.

Virtually every client is asking: how do I navigate the transition to manage risk and capture opportunity? How do I think about climate not only in terms of green technologies, but across the whole economy? How do I reconcile the ongoing role of fossil fuels – even the need for continued upstream investment – with the push to accelerate clean energy deployment? These are increasingly existential questions for portfolio construction because no investor can afford to ignore the transition as it accelerates.

Navigation isn't just about making an allocation to sustainable investments. It is about understanding as precisely as possible how the multiple forces of decarbonization will impact your *entire* portfolio – for example, how evolving technology, energy prices, government policy, and other factors interact to paint a picture of how the transition is unfolding, with implications at the security, sector, and portfolio level.

BlackRock already offers you a number of ways to navigate, including transition benchmarks and next-generation tilts that leverage proprietary data, research and insights – customizing and optimizing to lean into financially-material decarbonization and ESG objectives aligned to our clients' goals. Our active portfolios are ESG-integrated, which means that portfolio managers take sustainability-related characteristics of issuers into account in their investment decisions.

In 2022, we are committing to offer you more targeted ways to invest in line with the way decarbonization is projected to unfold.

- More strategies to enable investors to "green the core" of their portfolio by accessing climate-aware broad-market exposures and drawing on BlackRock Sustainable Investing Intelligence, including potential options for investors focused on retirement.
- We also plan to offer new fundamental and systematic active strategies and to continue to expand our iShares® strategies to include climate benchmarks.
- We will expand our Portfolio Consulting and Outsourced Chief Investment Officer capabilities to incorporate climate transition analytics and allow for greater customization to enable our clients to achieve their unique sustainability objectives.

Drive

Given the inevitability of the net zero transition, we believe navigation should be the default posture of investors. But we are hearing from more and more clients who want to do more than just understand how the transition may unfold and adjust their portfolios accordingly. They want to help **drive** it forward, positioning themselves to capture value while contributing to accelerated progress.

In this context, many of you are asking us: should my ambition be to remove as much carbon as possible from my portfolio today, or should I invest in carbon-intensive sectors that are in the process of going green? To paraphrase one climate-focused global investor, having a zero-carbon portfolio today doesn't necessarily drive decarbonization tomorrow.

Capital markets are already channeling capital to companies with green business models, such as producers of **renewable energy, suppliers of electric mobility technology, or companies focused on nature-based solutions**. We believe an underappreciated opportunity for investors

seeking to drive the transition lies in **identifying carbon-intensive companies that are positioning themselves to lead decarbonization within their industries**.

The transition to net zero, of course, will take decades. The global economy will continue to rely on fossil fuels as emissions-intensive sectors like electricity, industry, and transport work to decarbonize. Some incumbents will be displaced by new technologies or more agile startups, and some will lose out to competitors who are decarbonizing more successfully. **But many other incumbents will thrive, providing important investment opportunities for our clients, and successful decarbonization plans by these companies will be critical to an orderly transition.**

What might driving successful decarbonization look like at the industry level? For a utility, it might mean negotiating the early closure of a coal-fired power plant and using free cash flow to invest in grid-scale battery technology. For a steel producer, it might mean replacing traditional blast furnaces with electric arc furnaces. For an automaker, it might be committing to all-electric vehicle designs faster than its competitors.

BlackRock already provides a number of ways for clients to drive the transition – from one of the world's leading renewable power franchises, to our Climate Finance Partnership, to a range of thematic strategies.

In 2022, we are deepening our focus on the question of decarbonization across our investment platform, integrating it more deeply into our existing strategies, and offering **new** active public-markets strategies**,** index thematic strategies, and green bond strategies. In addition, our private-markets strategies are increasingly focused on helping clients access a range of transition-focused opportunities, both in renewables and in companies seeking to decarbonize.

Invent

Finally, clients will have enormous opportunities to invest in the technologies and businesses needed to i**nvent** major aspects of a truly zero-emissions economy. Clients are asking, how can I invest in the climate tech of the future? What are the climate unicorns of the 21st century that will have the biggest impact on the transition and generate outsize returns?

Many of these technologies exist but are not yet economically competitive – such as green hydrogen, carbon capture, green cement, or sustainable aviation fuel. Capital is necessary to commercialize these new technologies and invent others, and many of you have told us you see this area as one of the most exciting investment opportunities of the coming decades.

Last year, we announced the formation of Decarbonization Partners with Temasek, which will seek to make investments in early-stage growth companies targeting proven, next-generation renewable and

mobility technology. And just last week, we announced the dedicated investment team, which has already begun identifying an exciting pipeline of investment opportunities.

This year, we will establish a new capability to bring together BlackRock's efforts focused on transition finance – a hub for select strategies related to the transition; an incubator for new investment strategies; and a forum for BlackRock to connect with companies, academics, and other organizations to better understand the transition and seek the best investment opportunities on behalf of our clients.

Conclusion

The transition is a process that will unfold over many years. It will take careful planning and coordinated action among government, business and investors. We believe there is still a great deal to learn about how best to move forward, and your voice and your insights will be essential. We look forward to learning and working together, and we hope you will consider joining us for a summit on transition finance, which we will host later this year.

We are committed to being the world's leading advisor and expert on investing in the net zero transition. We are committed to giving you the most sophisticated, up-to-date analytics and the deepest understanding of how the transition will unfold. And we are committed to helping you select the investment options that are right for you and your stakeholders. It is our privilege to work with you to navigate, drive, and invent this economic and financial transformation.

Excerpt Vestas Wind Systems A/S Full Year 2021 Slide Deck and Vestas announces preliminary 2021 figures and financial outlook for 2022 [LINK]

Group President & CEO Henrik Andersen said: *"Everyone at Vestas did an outstanding job in 2021 to ensure record-high revenue despite a global business environment that became more challenging as the year progressed. iSupply chain instability and rising energy prices as well as accelerated cost inflation from raw materials, transport, and turbine components, however, continued to amplify costs throughout the year, which severely impacted visibility and profitablity. In this environment and without compromising on safety or quality, we achieved revenue of EUR 15.6bn, an EBIT margin before special items of 3 percent, and free cash flow of EUR 183m. We achieved an order intake of 13.9 GW, 3.1 GW of preferred supplier agreements on our V236-15.0 MW offshore turbine as well as strong performance in Service. In 2021 we also made strong strategic progress to strengthen Vestas' foundation and customer focus. This progress included the integration of Offshore activities, the ramp-up of Development, and the establishment of one global organisational blueprint. We remain focused on executing our strategy and driving the energy transition forward with our customers but expect the current challenging business environment to continue throughout 2022, which hampers our outlook for 2022. To mitigate these short-term challenges, the industry must show the discipline needed to protect profitability and improve value creation in the long term, and Vestas will continue to pave the way towards higher discipline. Partnerships remain fundamental for Vestas, and I want to extend a huge thank you to our colleagues, customers, and other partners across the full value chain.*

Outlook 2022

The supply chain instability caused by the pandemic and leading to increasing transportation and logistics costs, is expected to continue to impact the wind power industry throughout 2022. In addition, Vestas will experience increased impact from cost inflation within raw materials, wind turbine components and energy prices. Based on these circumstances, Vestas is presenting its outlook.

Revenue for full year 2022 is expected to range between EUR 15.0bn and 16.5bn. Vestas expects to achieve an EBIT margin before special items of 0-4 percent. Total investments*) are expected to amount to approx. EUR 1,000m in 2022.

It should be emphasised that there is greater uncertainty than usual around forecasts related to execution in 2022, and the outlook seeks to take into account the current situation and challenges.

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

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

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

[PAUSE]

But let me be clear.

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

And therefore we will only pursue opportunities that we believe can generate the disciplined returns we expect, and our shareholders expect.

And that links to the fourth question.

Can we deliver the 8-10% returns from renewables?

The answer is very simply – yes.

We actually believe we can do better, and these returns could turn out to be conservative. But let me take you through why we have absolute confidence in our plan.

It is firstly based on experience – specifically with Lightsource bp

Since we formed the partnership at the start of 2018, Lightsource bp has expanded its presence from 5 to 13 countries.

As I mentioned, it has grown its project pipeline from 1.6 gigawatts to 16.

And it has delivered 17 projects since 2018.

They typically achieve returns in the 8 to 10% range.

So how do we get to 8 to 10% across our renewables portfolio as a whole?

First, we know returns start at around 5 to 6% on an equity basis in a competitive auction.

Second, we believe that through our extensive experience in operations and project management – we can add value through applying our processes. We have track record here. For example in Biofuels – where we have, and more recently through bp Bunge, have increased the efficiency in harvesting by 50% since 2016.

Third, we'll integrate with the rest of bp. Through Trading where we have a long track record – over 30 years – of delivering close to a 2% return uplift. Or through the application of our digital expertise to drive additional performance. Or by bundling our renewables offer with different forms of energy along with our Natural Climate Solutions and offsets portfolio, to give customers what they want – clean, low cost and firm energy.

Fourth, we will use leverage which is typical in this industry.

The combination of these four areas gets us to 8-10%.

Beyond this – we have the choice to optimize the portfolio – to farm down or not – and if we do – that could add a further 1 to 2%.

So yes – we are confident we can deliver the returns we are targeting.

Now the fifth and final question – why bp? What is our competitive advantage – really?

Especially in this new world.

And there are four reasons:

First – our strong track record in operations and project management.

Second – our focus on relationships and partnerships around the world,

Third – our approach to digital and how we are using it to drive cost benefits and generate incremental value

Fourth – integration, and specifically our ability to integrate at a global level and across energy vectors.

Starting with operations and project management.

Today we are strong in oil and gas, strong in refining and have demonstrated how many of these technical skills are transferable.

We have an exceptional global project management organisation – top

https://www.theguardian.com/world/2022/feb/10/france-to-build-up-to-14-new-nuclear-reactors-by-2050-says-macron

France to build up to 14 new nuclear reactors by 2050, says Macron

French president says 'renaissance' of atomic energy industry will help end country's reliance on fossil fuels

Angelique Chrisafis *in Paris*
@achrisafis
Thu 10 Feb 2022 18.12 GMT

Emmanuel Macron has announced a "renaissance" for the French nuclear industry with a vast programme to build as many as 14 new reactors, arguing that it would help end the country's reliance on fossil fuels and make France carbon neutral by 2050.

"What our country needs ... is the rebirth of France's nuclear industry," Macron said in a speech in the eastern industrial town of Belfort, in which he lauded the country's technological prowess.

The centrist French president, who is expected to announce his campaign for re-election this month, is conscious of a growing debate about energy ahead of this spring's presidential vote as costs to consumers rise. Environmental issues are also a growing concern among French voters.

Atomic energy provides about 70% of French electricity, and low-cost nuclear power has been a mainstay of the French economy since the 1970s, but recent attempts to build new-generation reactors to replace older models have become mired in cost overruns and delays.

Presidential candidates on the right have supported more nuclear power plants saying France should have "sovereignty" over its electricity, while detractors on the left have warned of the cost and complexity of building new reactors. Environmentalists have raised safety concerns over radioactive waste that remains deadly for tens of thousands of years.

Macron said French nuclear regulators were "unequalled" in their rigour and professionalism and that the decision to build new nuclear power plants was a "choice of progress, a choice of confidence in science and technology".

He also announced a major acceleration in the development of solar and offshore wind power. He said France had no choice but to rely on renewables and nuclear and that the country would also have to consume significantly less energy in the next decades.

He said he would seek to extend the lives of all existing French nuclear plants where it was safe to do so.

The announcement comes at a difficult time for debt-laden, state-controlled energy provider, EDF, which faces delays and budget overuns on new nuclear plants in France and Britain, and corrosion problems in some of its ageing reactors.

Macron announced the construction of at least six new reactors by EDF by 2050, with an option for another eight.

His recent focus on nuclear power marks a policy shift from the start of his presidency, when he had promised to reduce its share in France's energy mix.

The French government lobbied hard and successfully to get the European Commission to label nuclear power "green" this month in a landmark review which means it can attract funding as a climate-friendly power source.

The Green presidential candidate, Yannick Jadot, said it was a moral imperative to progressively end France's dependence on nuclear to protect the climate and French people's safety. He said Macron's project was backward-looking and would condemn France to a kind of "energy and industrial obsolescence".

https://rbnenergy.com/way-down-in-the-hole-energy-transition-clean-energy-goal-drill-down-report

Way Down In The Hole - Everything You Need To Know About CO2 And Carbon Capture

Wednesday, 02/09/2022

Published by: Jason Lindquist

Not so long ago, most folks in the energy industry hardly gave carbon dioxide (CO_2) a thought. Sure, some CO_2 was used for enhanced oil recovery (EOR) and in some production areas the natural gas coming out of the ground had to be treated to remove high levels of CO_2. But otherwise, CO_2 wasn't on the industry's radar. Now though, CO_2 is a front-and-center concern not just for the energy industry but for society at large as the global economy tries to decarbonize. And while renewable energy like wind and solar will be part of that decades-long effort, so will the push to capture CO_2 and permanently store it deep underground. Put simply, it's time for producers, midstreamers, and refiners alike to gain a deeper understanding of carbon capture and sequestration, how it will affect them, and — ideally — how they can profit from it. In today's RBN blog, we discuss highlights from our new Drill Down Report.

Carbon dioxide may not be the most potent of the greenhouse gases (GHGs), but it is by far the most prevalent, and efforts to reduce or eliminate those emissions are at the forefront of global climate goals and the ongoing energy transition. The idea of capturing CO_2 from industrial and power-generation sources, cooling and compressing it into a supercritical state, then pumping it deep underground might have once seemed like a crazy idea, but not anymore. When CO_2 is captured and stored, and that's all, the process is called carbon capture and sequestration (CCS) and utilizes a Class VI injection well (right side of Figure 1) for long-term storage in saline formations. If the CO_2 is used for some other process before it's stored via a Class II well, it is called carbon capture, use, and sequestration (CCUS) — the most common example being EOR (left side of Figure 1).

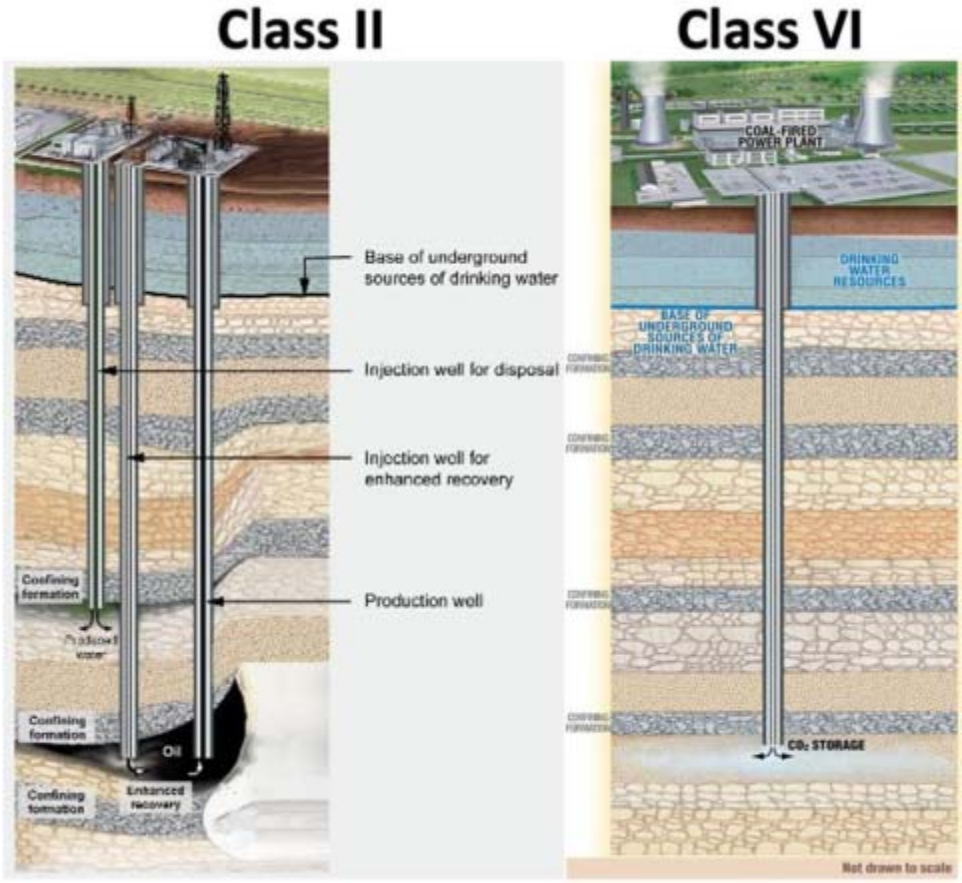


Figure 1. Class II Wells for EOR and Class VI Wells for CO_2 Storage. Source: EPA

In addition to EOR, Class II wells can be used for the disposal of other gases and liquids, including produced water (brine/salt water) that comes to the surface during oil and gas production. There are other carbon-capture alternatives as well, mostly conversions to make something out of the CO_2, which is referred to as carbon capture and utilization (CCU), and there is strong demand for CO_2 for a variety of industrial uses in what is commonly referred to as the merchant market.

The CO_2 Value Chain

The CO_2 value chain, as illustrated in Figure 2, starts in one of three places: CO_2 derived from naturally occurring underground sources; CO_2 that is obtained through direct air capture, or DAC; and CO_2 that is recovered from industrial processes, also known as anthropogenic CO_2, or A-CO_2.

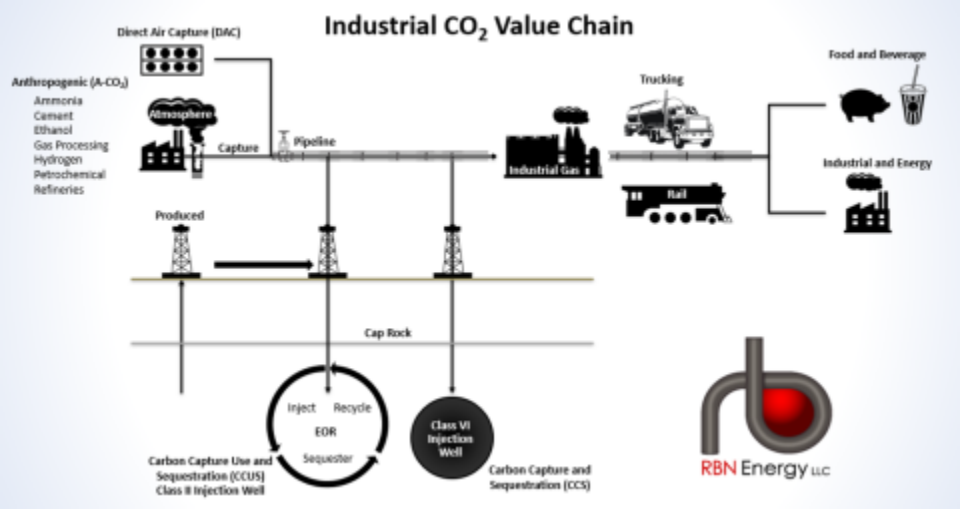


Figure 2. Industrial CO_2 Value Chain. Source: RBN

CO_2 sourced from natural wells is most commonly used in EOR, but some is also sold in the merchant market. Reservoirs include the McElmo Dome in southwestern Colorado, Bravo Dome in northeastern New Mexico, and Jackson Dome in Mississippi. At these reservoir sites, CO_2 is tapped to bring huge volumes to the surface. Oil and gas companies that utilize EOR pay for that CO_2 to be produced and piped to where it is used.

DAC, or direct air capture, is generally considered a relatively inefficient way to recover CO_2. The economics of carbon-capture schemes hinge on the concentration of CO_2 that needs to be processed to gather meaningful quantities of CO_2. These systems aim to pull CO_2 directly from the atmosphere and even the most polluted air will have a much lower concentration than industrial processes.

A-CO_2 is the anthropogenic (man-made) CO_2 that's generated by processing or burning fossil fuels and other industrial processes such as the production of ethanol, hydrogen, petrochemicals, and refined products. If you capture a facility's emissions and separate out the A-CO_2, it can then be utilized for other applications. Some A-CO_2 generators are situated next to affiliated facilities that can utilize some or all of the captured CO_2. Otherwise, the excess CO_2 can be compressed into a supercritical fluid and piped, railed, or trucked to where it's needed — or injected into Class VI wells for sequestration. Whether it makes economic sense to capture those emissions depends on the market price of CO_2 and incentives available through the Internal Revenue Code's carbon oxide sequestration tax credit, better known as 45Q.

The 45Q Tax Credit

Simply put, 45Q provides a federal tax credit for disposing of qualified carbon oxide (QCO) in secure geologic storage or using it in certain approved ways. For the purposes of the tax credit, QCO is a carbon oxide — usually CO_2 — that would have been released into the atmosphere if it had not been otherwise captured. It was added to the federal tax code in the Energy Improvement and Extension Act of 2008 — legislation that included broad goals to reduce GHG emissions as well as provisions to encourage more environmentally responsible use of coal. The credit was expanded and extended as part of the Bipartisan Budget Act of 2018.

To claim a tax credit, the emissions must be measured at the point of capture as well as at the point of disposal, injection, or other use. Each credit is earned by capturing and sequestering 1 metric ton (MT) of QCO. The amount of the credit, as well as various features of the credit, depends on when the qualifying capture equipment is placed into service.

A-CO_2 can be captured, either through mechanisms built into the industrial process from the outset or retrofitted onto existing processes. The capture potential of any CO_2 source is largely dependent on the concentration of the emissions produced — the lower the concentration, the more challenging the

economics of a potential project. All kinds of companies are under increasing pressure to decarbonize, but carbon capture often doesn't make financial sense. The 45Q tax credit can help justify the cost, but as we'll discuss next, it often falls short of what's needed.

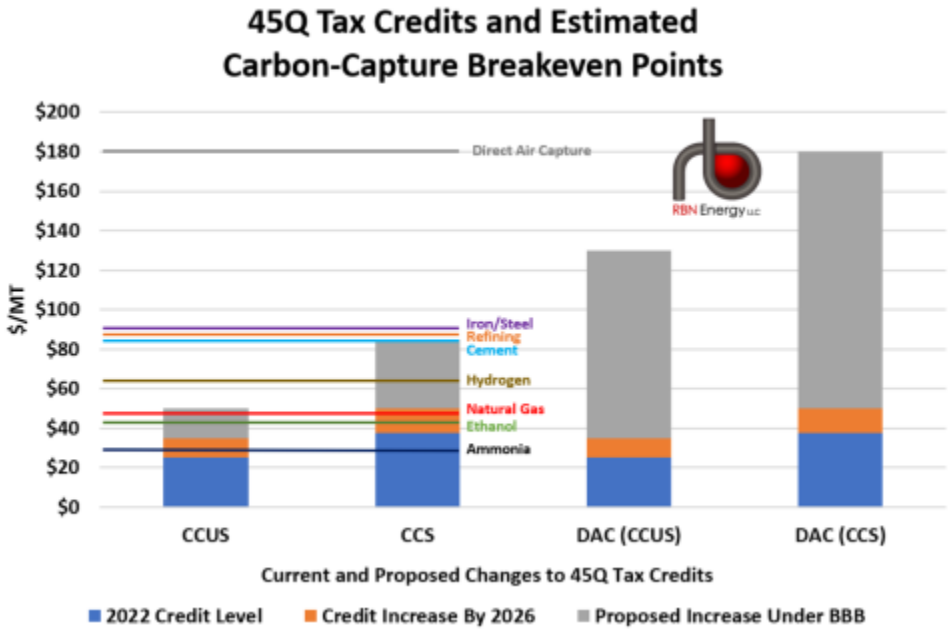


Figure 3. Current, Future and Potential 45Q Tax Credit Rates and Approximate Breakeven Costs of Carbon-Capture Projects. Sources: Rhodium Group, Eversheds Sutherland

Note: Breakeven figures represent the midpoint cost estimate; calculation represents technology cost uncertainty without consideration of cost reductions from experience.

According to current tax law, the 45Q tax credit for CCS projects jumped to $37.85/MT in 2022 (blue bar segment in second column of Figure 3), which is below the breakeven point for most carbon-capture projects involving ethanol (green line) but high enough to potentially incentivize some projects that involve ammonia production (black line). The credit for CCS is scheduled to reach $50/MT by 2026 (orange bar segment in second column), then increase with inflation after that. Those changes could help make it financially feasible to do additional retrofits to capture those emissions and reap the credits. Even with expanded credits, carbon capture can be a challenge, especially in processes where the CO_2 is a product of combustion (such as a coal- or natural-gas-fired power plant) and where the CO_2 is commingled with other emissions and is therefore harder to capture.

Potential Changes

The 45Q tax credit enjoys something very rare these days — generally bipartisan support. There have been several attempts to enhance the 45Q tax since the 2018 expansion, with many of those goals (including increased credit amounts and direct payments) included in the Democrats' central piece of legislation, the Build Back Better (BBB) Act, that is now languishing in Congress. It was narrowly passed by the House in November but appears to have no path forward in the Senate. President Biden has said the BBB could be broken into pieces instead, including the sections on climate policy, although that seems unlikely to gain much Republican support. For 45Q supporters, that means separate legislation may be the best path forward. Several proposed changes to the 45Q tax credit have already been included in separate pieces of legislation, so they could become a reality even if the BBB ultimately fails.

There's a lot of ground to cover when it comes to CO_2, from its long-standing use in EOR to emerging carbon-capture technologies, from its key role in the merchant market to significant federal incentives designed to increase carbon sequestration. To see our latest Drill Down report, which covers all these topics and more, click here.

*For more about how the ongoing energy transition and the drive toward decarbonization have run headlong into the reality of today's energy markets, sign up for **RBN's School of Energy Spring 2022**, to be held May 17-18 at The Houstonian in Houston.*

"Way Down in the Hole" was written by Tom Waits and appears as the second song on side two of Waits' 10th studio album, *Franks Wild Years*. The song was used as the theme song for the HBO crime drama series, The Wire. The series ran for five seasons from 2002-08. In addition to Waits version, a different recording of "Way Down in the Hole" was used for each season, including versions by The Blind Boys of Alabama, The Neville Brothers, DoMaJe, and Steve Earle. Personnel on the Waits record were: Tom Waits (vocals, pump organ), Marc Ribot (guitar), Greg Cohen (bass), Michael Blair (drums, percussion), Ralph Carney (sax), and Angela Brown, Leslie Holland, and Lynne Jordan (backing vocals).

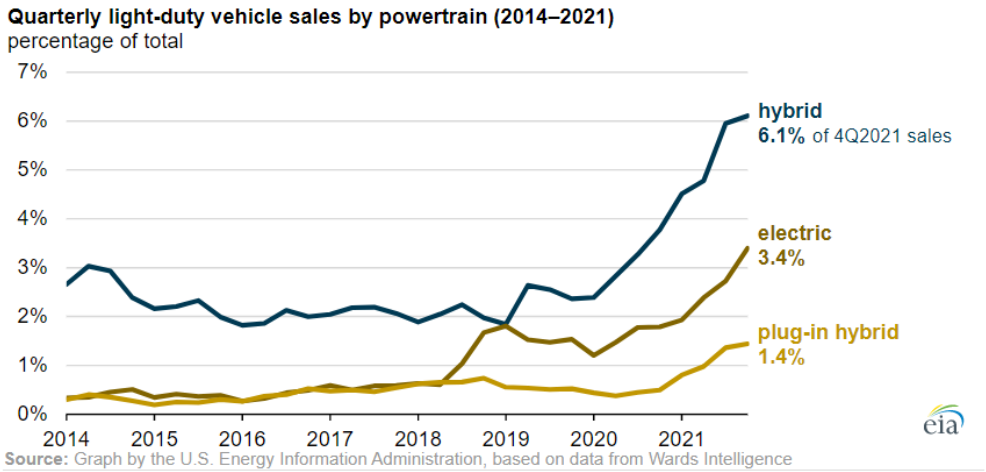
Franks Wild Years was recorded during 1987 at Universal Recording in Chicago, and The Sound Factory and Sunset Sound in Hollywood. The album contains songs written for a play of the same name. Several songs from the album have appeared in television shows, movies, and stage productions. Produced by Waits, the album was released in August 1987 and went to #115 on the Billboard Top 200 Albums chart.

Tom Waits is an American songwriter, singer, musician, and actor. He began his professional career performing on the San Diego folk circuit as a teen in the late 1960s. He moved to Los Angeles in 1972, where he worked as a songwriter before securing his first record deal with Asylum Records. He has released 17 studio albums, three live albums, seven compilation albums, two soundtrack albums, and 24 singles. His songs have been covered by many artists from different genres. Waits has appeared in over two dozen motion pictures. He was inducted into the Rock and Roll Hall of Fame in 2011. His last tour was in 2008 and his last LP, *Bad as Me*, was released the same year. He has a featured role in the movie *Licorice Pizza*, which was released in the U.S. in November and has received an Oscar nomination for Best Picture.

https://www.eia.gov/todayinenergy/detail.php?id=51218

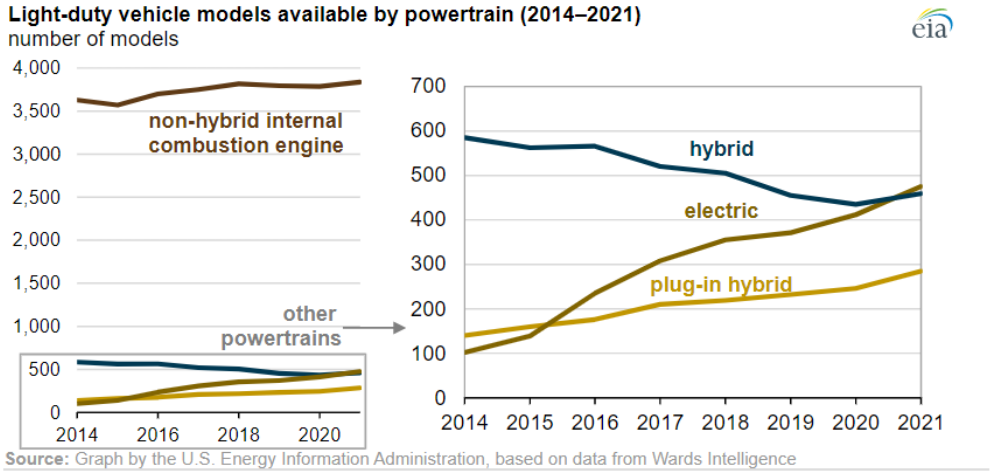
FEBRUARY 9, 2022

Electric vehicles and hybrids surpass 10% of U.S. light-duty vehicle sales



Hybrid, plug-in hybrid, and electric vehicle sales in the Unites States have increased in recent months as sales of non-hybrid internal combustion engine (ICE) vehicles fueled by gasoline or diesel decreased. In the fourth quarter of 2021, hybrid, plug-in hybrid, and electric vehicles collectively accounted for 11% of light-duty vehicle sales in the United States, according to data from Wards Intelligence.

Sales of several existing hybrid, plug-in hybrid, and electric models increased in 2021, but a large portion of the sales increase came from new manufacturer offerings across different market segments. Manufacturers increased the number of non-hybrid ICE vehicle models by 49 in 2021, versus an increase of 126 for hybrid and electric vehicle models.

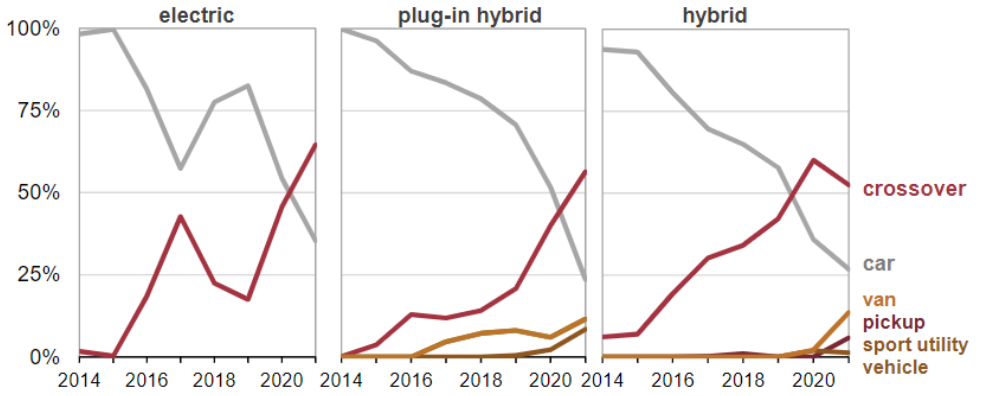


Source: Graph by the U.S. Energy Information Administration, based on data from Wards Intelligence

These additional hybrid or electric models were mostly either crossover vehicles, which combine attributes of passenger cars and sport utility vehicles, or vehicles such as vans and pickups, which previously didn't have many hybrid or electric vehicle options.

Manufacturers of hybrid vehicles and plug-in vehicles have expanded into market segments such as crossovers, vans, and pickups following consumer preference for larger vehicles. Within each electric or hybrid powertrain type, crossover vehicles now account for most sales.

Sales of electricified light-duty vehicles by powertrain (2014–2021)
percentage of sales within electricified market



Source: Graph by the U.S. Energy Information Administration, based on data from Wards Intelligence

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Principal contributor: Michael Dwyer

Tags: vehicles, gasoline, diesel, liquid fuels

Excerpt Hedges & Company “New Car Buyer Demographics 2022 (Updated)” [LINK]

New car & truck buyer demographics by income

Two household income groups account for most new vehicle purchases: Under $50,000 per year (mostly single-person households) and $100,000 per year and up (mostly families).

New SUV Buyers by Household Income

Under $50,000	31%
$50,000 to $74,999	19%
$75,000 to $99,000	10%
$100,000 and up	40%

New Sedan Buyers by Household Income

Under $50,000	39%
$50,000 to $74,999	18%
$75,000 to $99,000	9%
$100,000 and up	34%

New Truck Buyers by Household Income

Under $50,000	37%
$50,000 to $74,999	20%
$75,000 to $99,000	10%
$100,000 and up	33%

New Plug-In Hybrid Buyers by Household Income

Under $50,000	21%
$50,000 to $74,999	12%
$75,000 to $99,000	10%
$100,000 and up	57%

New Battery Electric (BEV) Buyers by Household Income

Under $50,000	20%
$50,000 to $74,999	16%
$75,000 to $99,000	4%
$100,000 and up	60%

The average buyer of a new car, according to the National Automobile Dealers Association (NADA) in 2015, earned about $80,000 per year.

A study by the University of California-Davis showed that in California, people with income over $150,000 per year purchase a third of electric vehicles (EVs) and plug-in hybrid electric vehicles (PHEVs). People with household income of $100,000 to $149,000 account for about 20% and people with household income of $50,000 to $99,999 per year account for about 27%

https://www.sushi-jiro.jp/%E3%81%A1%E3%82%87%E3%81%A3%E3%81%A8%E3%81%B2%E3%81%A8%E3%81%93%E3%81%A8/

A little word

"Sushi" was developed as a casual food for food stalls during the Edo period.
The sushi chef drew "boiled soy sauce" and "boiled" on the sushi he had grasped and placed it in front of the customer. Customers picked it up quickly with their hands, drank tea, wiped their hands with goodwill, and left the stall.
So, in the old days, it didn't seem like it was an atmosphere of chatting and drinking.

Sukiyabashi Jiro protects the "Edomae" and enjoys the freshly made rice balls.

Visit the store

Don't be late for your appointment. Rice is cooked and vinegared rice is prepared according to the reserved time, so if you are late, you will not be able to fully enjoy Sukiyabashi Jiro's rice ball sushi. The shop has only 10 counter seats.
Sukiyabashi Jiro only purchases seafood that matches the vinegared rice balls from Tsukiji, so we do not offer sake snacks.

Eat "Random"

At Sukiyabashi Jiro, only the "Omakase Course" rice balls are available. The "Omakase" items on the counter are purchased in the morning of the day, and the order of the rice balls is decided. There are about 20 volumes.
When the rice balls are placed on the blackboard in front of you, please eat them as soon as possible. This is because freshly nigiri is the most delicious.

Dress code

There is no special dress code, but most customers wear a jacket when they come to the store. Collarless shirts, shorts and sandals may be refused entry.
Also, please refrain from using perfume.
Don't leave your bag on the backrest.

Eat sushi deliciously

Pinch with that one hand

The sushi that Jiro Ono holds is very lightly held, so it contains a lot of air and feels like it sinks softly when placed on the blackboard. It's not easy to pinch this. Instead of grabbing both ends of the vinegar rice, gently pick it up and it will not lose its shape.

Part 2 Grab with chopsticks

When pinching a rice ball placed on a blackboard with chopsticks, use the rice ball as a portable shrine, pass the chopsticks along the blackboard like a carrying stick, and gently lift them from both sides to grab them. .. If you try to lift the rice ball diagonally with chopsticks, the sushi will always fall apart.

Part 3 Eat sushi without dropping seeds

When holding sushi, if you lift it so that it covers it from above, the sushi seeds may fall off when you bring it to your mouth, such as a warship roll that is lightly topped with sushi seeds. Gently lift it up and take a bite as it is.

Part 4 Add soy sauce

If the "boiled soy sauce" is not drawn on the rice balls due to the negligence of the sushi chef, pick up a small amount of ginger and use it instead of a brush, soak it in soy sauce, and then draw it on the sushi seeds. It is extremely difficult to add soy sauce after pinching rice balls.

Part 5 Pinch ginger

Ginger serves to cut the taste of rice balls, but eating too much will only make your mouth spicy. Let's think about the key points.

Part 6 Drink tea

Jiro Ono's theory is that "tea is the best way to cut the aftertaste of sushi." Tea is hot, so if you need water, please let us know.

Part 7 Do not soak in soy sauce

Adding soy sauce to vinegared rice spoils the taste of vinegared rice.

Part 8 Do not add spicy soy sauce to the sweet claws

You don't need to add soy sauce to sushi with sweet claws.

Don't turn over the 9 rice balls

The temperature of vinegared rice is the temperature of human skin because the tongue does not feel strange.

Part 10 Peel off the sushi seeds and don't eat

Removing sushi seeds is the greatest insult of craftsmanship.

Part 11 I don't eat it in two pieces

The rice balls are bite-sized.

Part 12 Don't collect sushi

Freshly sushi is the most delicious.

Dan Tsubouchi @Energy_Tidbits · 42m

great morning on #Calgary. 4c and sunny. the local canada goose are out for a walk in the remaining ice on the Elbow River. notice no snow in the ground.

Dan Tsubouchi @Energy_Tidbits · 1h

"It's called an investment. You can apply those three things to any charity or cause you have a passion for – you can invest your time, you can invest your finances or you can invest your voice, It doesn't matter which". Great inspiration @mrs_whit77

youtube.com
Andrew Whitworth is the Walter Payton Man of th...
Check out our other channels:NFL Mundo https://www.youtube.com/mundonflNFL Brasil ...

Dan Tsubouchi @Energy_Tidbits · 15h

Bottlenecks cause VEN #Oil production down in Jan. Lack of available storage due to mounting inventory of hard to sell diluted crude oil (DCO). Also rejection of some "alleged lesser crude quality". Good report by @AChavezAlava @venanalysis #OOTT #OPEC


Venezuela: Storage Bottleneck Causes Setback in Oil Output and Exports

2

Dan Tsubouchi @Energy_Tidbits · 21h

#Vortexa crude #Oil floating storage for 01/11 est 101.51 mmb, -7.64 WoW vs 109.15 at 02/04. No major revisions. Holding ~100 mmb despite OPEC+ mthly increases, normal seasonal softness & still Covid impacts. Thx @Vortexa @TheTerminal #OOTT

Source: Bloomberg, Vortexa

Feb 12 Noon MT estimate

Date	Mid Px
Fr 02/11/2022	101.514k
Fr 02/04/2022	109.153k
Fr 01/28/2022	101.597k
Fr 01/21/2022	103.983k
Fr 01/14/2022	90920
Fr 01/07/2022	99166
Fr 12/31/2021	100.133k
Fr 12/24/2021	102.646k
Fr 12/17/2021	100.084k
Fr 12/10/2021	95330
Fr 12/03/2021	93449

Feb 7, 5am MT Estimate

Date	Mid Px
Fr 02/04/2022	108.296k
Fr 01/28/2022	100.389k
Fr 01/21/2022	102.233k
Fr 01/14/2022	90348
Fr 01/07/2022	98349
Fr 12/31/2021	99732
Fr 12/24/2021	102.167k
Fr 12/17/2021	99777
Fr 12/10/2021	95780
Fr 12/03/2021	92225
Fr 11/26/2021	100.026k

Jan 29, 3pm MT Estimate

Date	Mid Px
Fr 01/28/2022	802k
Fr 01/21/2022	100.046k
Fr 01/14/2022	94940
Fr 01/07/2022	100.626k
Fr 12/31/2021	100.46k
Fr 12/24/2021	102.329k
Fr 12/17/2021	100.961k
Fr 12/10/2021	94808
Fr 12/03/2021	92470
Fr 11/26/2021	100.775k
Fr 11/19/2021	113.997k

Source: Bloomberg, Vortexa

5 · 9

Dan Tsubouchi @Energy_Tidbits · 22h

#Biden/#Putin call readouts. No change to positions. #Biden "prepared to engage in diplomacy, in full coordination with our Allies and partners, we are equally prepared for other scenarios." #Putin keeps cards close to the chest #OOTT

Readout of President Biden's Call with President Vladimir Putin of Russia

FEBRUARY 12, 2022 • STATEMENTS AND RELEASES

President Joseph R. Biden, Jr. spoke today with President Vladimir Putin of Russia about Russia's escalating military buildup on the borders of Ukraine. President Biden was clear that, if Russia undertakes a further invasion of Ukraine, the United States together with our Allies and partners will respond decisively and impose swift and severe costs on Russia. President Biden reiterated that a further Russian invasion of Ukraine would produce widespread human suffering and diminish Russia's standing. President Biden was clear with President Putin that while the United States remains prepared to engage in diplomacy, in full coordination with our Allies and partners, we are equally prepared for other scenarios.

Biden told Putin that the United States is ready for diplomacy with Russia and other scenarios

The Presidents of the United States and Russia discussed the alleged Russian build-up of forces on the border with Ukraine

WASHINGTON, February 12th. /TASS/. US President Joe Biden, in a telephone conversation with Russian leader Vladimir Putin, discussed the alleged Russian buildup of forces on the border with Ukraine and said that Washington is ready for both further diplomatic interaction with Moscow and other scenarios. This is stated in a written statement released on Saturday by the White House press service.

According to these data, Biden discussed with Putin "Russia's increasing buildup of military forces on the borders with Ukraine." The head of the White House warned that the United States would give a decisive and quick response in the event of an "invasion" of the Russian Federation into this country. "President Biden made it clear to President Putin that while the United States remains ready for diplomatic engagement in full coordination with our allies and partners, we are equally prepared for other scenarios," the statement said. The White House reported that the conversation between the presidents of Russia and the United States ended on Saturday at 12:06 Washington time (20:06 Moscow time).

According to the American side, the conversation lasted more than an hour. It began, as previously stated by the White House, at 11:04 a.m. east coast time of the United States (19:04 Moscow time). The head of the US administration is spending this weekend at his residence in Camp David (Maryland).

As the press secretary of the Russian leader Dmitry Peskov reported earlier, the initiative to hold the conversation came from Washington, and "the request was preceded by a written request from the American side."

The presidents of Russia and the United States had previously communicated by phone at the end of last year. On December 7, they had negotiations via videoconference. The first face-to-face meeting between Putin and Biden as heads of state took place in Geneva in June 2021.

2 · 1

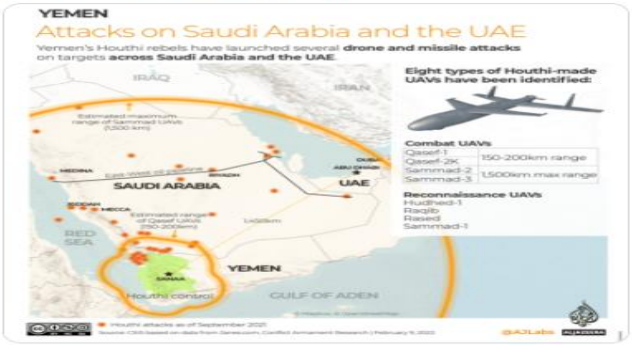
Dan Tsubouchi @Energy_Tidbits · Feb 12

#Biden #Putin call is at 11am ET. Hopefully it has some sort of better result than what sounds happened at this morning's #Lavrov #Blinken call. #OOTT

4

Dan Tsubouchi @Energy_Tidbits · Feb 12

Here is the @AJEnglish map that was in the tweet. shows reported range of #Houthi missiles. just checked and Feb 9 report is still on their website aljazeera.com/news/2022/2/9/... #OOTT



Dan Tsubouchi @Energy_Tidbits · Feb 12

good reminder from @AJEnglish that #Houthi long range missiles have ability to reach all major Saudi Arabia & UAE cities, oilfields, oil infrastructure including loading terminals. #OOTT twitter.com/AJEnglish/stat...

1 · 3

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This Tweet is unavailable.

2 1

Dan Tsubouchi @Energy_Tidbits · Feb 11

don't ever recall this little snow in the Cdn Rockies by #Canmore in the 22 yrs we have been here. and no snow in the fields above the old coal mines by the Bow River. but the local elk don't mind as no digging requires for food.

7

Dan Tsubouchi @Energy_Tidbits · Feb 11

#JCPOA doing a full status check today on where they are. be interesting to see if any direct or nuance changes from #Biden's @PressSec @StateDeptSpox in this afternoon's briefings. #OOTT

> **Mikhail Ulyanov** @Amb_Ulyanov · Feb 11
> Intensive work on #JCPOA is underway in Vienna. All three working groups (on #sanctions lifting, nuclear issues and implementation/sequencing) are to meet today to address the remaining outstanding issues.

1 1

Dan Tsubouchi @Energy_Tidbits · Feb 11

Don't you find the best CEOs always strive to get better & it catches on to their team. Just like sports leaders. @heykayadams @gmfb to @Titans @KevinByard after 2nd all pro, what more can you do? his reply "you either get better or you get worse, you can never stay the same".

1

Dan Tsubouchi @Energy_Tidbits · Feb 10

Athletes are amazing. just watched the @i_weidemann silver medal full 5,000 m skate. what mental strength to hold perfect form knowing one technique slip could have made the difference. great celebration pic! Go #TeamCanada

cbc.ca
Canada's Isabelle Weidemann wins 2nd Olympic speed skating medal ...
Speed skater Isabelle Weidemann, Canada's first athlete to reach the podium at Beijing 2022, is also its first double medallist.

1

Dan Tsubouchi @Energy_Tidbits · Feb 10

1/2. #LNGSupplyGap getting bigger. Expect longer time to restart @TotalEnergies #Mozambique. In Q&A, @PPouyanne "But my view is that the conditions under which we could restart the project might be fulfilled, maybe it will take a year. I don't know. We'll see" #LNG #NatGas #OOTT

2 · 1 · 4

Dan Tsubouchi @Energy_Tidbits · Feb 10

2/2. @PPouyanne "We know that when we say yes we can come back, it will take six months really to start up again". Hope was 2022 restart for 1st #LNG in 2026. Backs up ~5 bcf/d of #MozambiqueLNG. see SAF 04/28/21 blog. Need brownfield FIDs ie. #LNGCanada Phase 2. #NatGas #OOTT

...anscript of excerpt from TotalEnergies Q4 call hosted by CEO Patrick Pouyanne...

SAF Group created transcript

Blog Summary

...rownfield LNG FIDs Now Needed To Fill New LNG Supp... ...ambique Chaos? How About LNG Canada Phase 2?

For Details, Please See The 7 Page Blog

1

Dan Tsubouchi @Energy_Tidbits · Feb 10

heads up, @PPouyanne in the Q&A on the Q4 call right now, he is sounding like a #MozambiqueLNG restart could be a year away and then he reminds it may take 6 months to get project going once a restart decision. #LNG #OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Feb 10
>
> #TotalEneriges restart #MozambiqueLNG when "convinced that we can come back, not to leave again in six months which would be the end of the story" "it will probably take time" says @PPouyanne. Sounds like summer at earliest? Thx @FrancoisDeBeaup #LNG #OOTT

By Francois de Beaupuy

(Bloomberg) -- TotalEnergies and Mozambique authorities agree that their LNG project can resume when security is ensured for the population in the Cabo Delgado province, CEO Patrick Pouyanne says at a press conference in Paris.

* "We'll relaunch the project when we'll be convinced that we can come back, not to leave again in six months which would be the end of the story, but when the stability and a lasting peace has returned to Cabo Delgado"
** Notes that there has been some progress
** Total will resume the project when those in refugee camps return to their homes
** Company is working with NGOs to help local population find jobs, benefit from the project, as soon as possible
** "It will probably take time" to resume construction; "it's a good project"
* NOTE: Total CEO Says More Progress Needed on Mozambique Security
* TotalEnergies has made progress in Suriname, needs to drill more to develop oil with not a lot of associated gas: CEO
** CEO hopes Total can present first project in Suriname by end of 2022; see related story from October
* Total is working with Petrobras to launch two large projects in Brazil on the Sepia and Atapu fields
* Company hoping to decide on the addition of a new train at Cameron LNG in the U.S. in 2022, may launch Papua LNG project in 2023, is looking into an LNG project in Mexico, and looking at future LNG trains in Russia and Qatar

To contact the reporter on this story:
Francois de Beaupuy in Paris at fdebeaupuy@bloomberg.net
To contact the editors responsible for this story:

1

Dan Tsubouchi @Energy_Tidbits · Feb 10

Global #Wind rollout will be $$$ & take longer. Note #Vestas factors that "severely impacted visability & profitability". 05/05 tweet, @IEA warned on critical minerals, shortage not going back 2019 cost/availability. #NatGas isn't a transition fuel, its critical fuel. #OOTT #LNG

Excerpt Vestas Wind Systems A/S Full Year 2021 Slide Deck and Vestas announces preliminary 2021 figures and financial outlook for 2022 [LINK]

Group President & CEO Henrik Andersen said: "Everyone at Vestas did an outstanding job in 2021 to ensure record-high revenue despite a global business environment that became more challenging as the year progressed. Supply chain instability and rising energy prices as well as accelerated cost inflation from raw materials, transport, and turbine components, however, continued to amplify costs throughout the year, which severely impacted visibility and profitability. In this environment and without compromising on safety or quality, we achieved revenue of EUR 15.6bn, an EBIT margin before special items of 3 percent, and free cash flow of EUR 183m. We achieved an order intake of 13.9 GW, 3.1 GW of preferred supplier agreements on our V236-15.0 MW offshore turbine as well as strong performance in Service. In 2021 we also made strong strategic progress to strengthen Vestas' foundation and customer focus. This progress included the integration of Offshore activities, the ramp-up of Development, and the establishment of one global organisational blueprint. We remain focused on executing our strategy and driving the energy transition forward with our customers but expect the current challenging business environment to continue throughout 2022, which hampers our outlook for 2022. To mitigate these short-term challenges, the industry must show the discipline needed to protect profitability and improve value creation in the long term, and Vestas will continue to pave the way towards higher discipline. Partnerships remain fundamental for Vestas, and I want to extend a huge thank you to our colleagues, customers, and other partners across the full value chain.

Outlook 2022

The supply chain instability caused by the pandemic and leading to increasing transportation and logistics costs, is expected to continue to impact the wind power industry throughout 2022. In addition, Vestas will experience increased impact from cost inflation within raw materials, wind turbine components and energy prices. Based on these circumstances, Vestas is presenting its outlook.

Revenue for full year 2022 is expected to range between EUR 15.0bn and 16.5bn. Vestas expects to achieve an EBIT margin before special items of 0-4 percent. Total investments¹ are expected to amount to approx. EUR 1,000m in 2022.

It should be emphasised that there is greater uncertainty than usual around forecasts related to execution in 2022, and the outlook seeks to take into account the current situation and challenges.

> **Dan Tsubouchi** @Energy_Tidbits · May 5, 2021
>
> Path to #EnergyTransition is clear, but demise of #Oil #NatGas won't be as quick as aspirations. Another @fbirol warning not on track to meet #NetZero aspirations. this time critical minerals raising risk of delayed or more expensive #EnergyTransition. Great ...

1 · 3 · 4

Dan Tsubouchi @Energy_Tidbits · Feb 10

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1 4

Dan Tsubouchi @Energy_Tidbits · Feb 9

Note @WhiteHouse didn't mention #KingSalman "stressed the importance of maintaining balance and stability in the oil markets, highlighting the role of the historic #OPEC+ agreement in this regard, and the importance of maintaining the agreement" to #Biden on #Oil. #OOTT

https://www.spa.gov.sa/viewstory.php?lang=en&newsid=2328223

Custodian of the Two Holy Mosques Receives Telephone Call from President of the United States of America

Wednesday 1443/7/8 – 2022/02/09

Riyadh, February 09, 2022, SPA -- The Custodian of the Two Holy Mosques King Salman bin Abdulaziz Al Saud received a telephone call from President Joseph R. Biden of the United States of America.

During the call, the two leaders reaffirmed the historic and strategic partnership between the Kingdom and the United States, and the need to solidify and strengthen cooperation to promote both countries' interests, and achieve stability in the region and the world.

The Custodian of the Two Holy Mosques underscored the importance of strengthening mutual security cooperation to confront terrorism and its financing.

The Custodian of the Two Holy Mosques commended H.E the President for expressing the United States' commitment to support the Kingdom in its defense of its lands and citizens. The Custodian of the Two Holy Mosques praised the United States for standing with the Kingdom and meeting its defensive needs, which will increase efforts to preserve security and stability in the Kingdom and the region. His Majesty cited the Kingdom's support to efforts by the United States to prevent Iran from obtaining nuclear weapons, and stressed the need to work together to counter the destabilizing activities of Iran's proxies in the region. The Custodian of the Two Holy Mosques affirmed that the Kingdom is committed to deescalating tensions in the region and promoting dialogue.

The Custodian of the Two Holy Mosques expressed the Kingdom's resolve in reaching a comprehensive political resolution in Yemen, and its efforts to bring prosperity and security for the Yemeni people, referring to the Kingdom's continuing humanitarian aid and reconstruction efforts.

Regarding energy and oil markets, the Custodian of the Two Holy Mosques stressed the importance of maintaining balance and stability in the oil markets, highlighting the role of the historic OPEC+ Plus agreement in this regard, and the importance of maintaining the agreement.

--SPA 23:50 LOCAL TIME 26:50 GMT

https://www.whitehouse.gov/briefing-room/statements-releases/2022/02/09/readout-of-president-joseph-r-biden-jr-s-call-with-king-salman-bin-abdulaziz-al-saud-of-saudi-arabia/

Readout of President Joseph R. Biden, Jr.'s Call with King Salman bin Abdulaziz Al-Saud of Saudi Arabia

FEBRUARY 09, 2022 STATEMENTS AND RELEASES

President Joseph R. Biden, Jr. spoke today with King Salman bin Abdulaziz al-Saud of Saudi Arabia to discuss regional developments and issues of mutual concern, including Iranian-enabled attacks by the Houthis against civilian targets in Saudi Arabia. The President underscored the U.S. commitment to support Saudi Arabia in the defense of its people and territory from these attacks and full support for UN-led efforts to end the war in Yemen. The President noted his commitment to ensuring that Iran can never obtain a nuclear weapon and briefed the King on ongoing multilateral talks to reestablish constraints on Iran's nuclear program. The two leaders discussed matters pertaining to the Middle East region and Europe and agreed that their teams would remain closely coordinated over the coming weeks and months. Both leaders further reiterated the United States' and Saudi Arabia's commitment to ensuring the stability of global energy supplies.

###

1 1 5

Dan Tsubouchi @Energy_Tidbits · Feb 9

Why didn't @BorisJohnson, @POTUS or @JustinTrudeau warn jobs and livelihoods would be at risk by squeezing supply of #Oil #NatGas in #EnergyTransition? At least UK is having a #MacronMoment & realizing #Oil #NatGas is needed for longer. #OOTT

britain-energy-hands/uk-says-support-for-oil-and-gas-essential-for-net-zero-transition-idUSS8N2U800V

UPDATED 5 HOURS AGO

ɔort for oil and gas essential for net zero trans

s) - Britain must continue to support the oil and gas sector to meet its net zero commitmen
ster Greg Hands said on Wednesday.

ritain's oil and gas sector is not just compatible with our net zero goals, it is essential if we
s while protecting jobs and livelihoods," he told parliament. (Reporting by William James

ers Trust Principles.

> **Dan Tsubouchi** @Energy_Tidbits · Dec 9, 2021
>
> Time for #2022Predictions. My #1 is more #EnergyTransition #NetZero leaders come out of closet, have a #MacronMoment ie. have "transition" not self inflicted shortage so 2021 energy crisis isn't every year. A return to #EnergySecurity = #Oil #NatGas #LNG strong thru 2030. #OOTT twitter.com/Energy_Tidbits…

1 2 4

Dan Tsubouchi @Energy_Tidbits · Feb 9

for those not near their laptop, @EIAgov weekly #Oil #Gasoline #Distillates inventory data as of Feb 4 just out. big beat to expectations #OOTT ir.eia.gov/wpsr/overview....

s Inventory Feb 4: EIA, Bloomberg Survey Expectations, AP

els)	EIA	Expectations
	-4.76	1.50
	-1.64	1.50
	-0.93	-1.50
	-7.33	1.50

commercial so builds in impact of 1.4 mmb draw from SPR for Fe
ed in the oil data, Cushing had a draw of 2.80 mmb for Feb 4 wee

Bloomberg
SAF Group

1 6

Dan Tsubouchi @Energy_Tidbits · Feb 8

hope everyone is safe. US warns "There are reports of a possible missile or drone strike having occurred over Abu Dhabi" vs UAE reports "Abu Dhabi Civil Defense Authority have put out a fire caused by a gas container explosion in a building" #OOTT

ae.usembassy.gov
Security Alert - U. S. Mission UAE – February 9, 2022

1 1 2

Dan Tsubouchi @Energy_Tidbits · Feb 8

1/3. $BLK "how to invest in the #NetZero transition". "Increased demand for #FossilFuels in the restart of economic activity & impaired supply have driven up the price & use of #NatGas, #Oil & #Coal .. will be periods like this when traditional energy performs well... #OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Jan 18
> "we will not survive with the society we are accustomed without hydrocarbons right now, we need to rapidly admit that" @BlackRock CEO Fink to @AndrewSorkin @SquawkCNBC re his annual letter to CEOs. bullish for #Oil #NatGas stocks. #OOTT #MacronMoment blackrock.com/corporate/inve...
>
> reply to question on CNBC Squawk
> nk's Annual Letter to CEOs
> n/corporate/investor-relations/larr
> oup created transcript
> *ith hydrocarbon companies not ag*
> *we will not survive with the societ*
> *need to rapidly admit that and we*
> *ize hydocarbons are we move more*

1 1 7

Dan Tsubouchi @Energy_Tidbits · Feb 8

2/3 ... periods that should not be seen as counter to the transition, but as part of it. The speed and shape of the transition are deeply uncertain, and it will take decades to play out." #OOTT #NatGas

1 2

Dan Tsubouchi @Energy_Tidbits · Feb 8

3/3. "We believe an underappreciated opportunity for investors seeking to drive the transition lies in identifying carbon-intensive companies that are positioning themselves to lead decarbonization within their industries". Bullish for #Oil #NatGas stocks. #OOTT

Excerpts from Blackrock's

https://www.blackrock.com/ca/investors/en/transition-investing

A FRAMEWORK FOR OUR CLIENTS

How to invest in the net zero transition

Decarbonization is proceeding at different speeds across different parts of the economy and the world. The shocks we see in the energy sector today are one example of the challenges the transition poses. Increased investment in the supply of renewables outpaced the reduced investment in fossil fuels. Now increased demand for fossil fuels as the restart of economic activity and impaired supply have driven up the price and use of gas, oil and coal. There will be periods like this when traditional energy performs well – periods that should not be seen as counter to the transition, but as part of it.

The speed and shape of the transition are deeply uncertain, and it will take decades to play out. It is essential that governments, businesses, and finance work together to manage the transition in an orderly fashion, ensuring reliable energy supply and cost along the way.

The ambition and effectiveness of government policy will be a major factor in determining the future role for hydrocarbons. Effective, long-term planning is necessary to deliver cost-efficient clean energy alternatives at scale. Without it, hydrocarbons will continue to play a central role in the global economy for a much longer time. To date, public policy has primarily focused on limiting hydrocarbon supply but has not done enough to address demand – for example, by reducing energy-intensive industries or accelerating adoption of zero-carbon energy sources – resulting in higher energy prices in some instances. And as we have seen in emerging markets, rising natural gas prices can also drive increased use of coal.

Capital markets are already channeling capital to companies with green business models, such as producers of **renewable energy, suppliers of electric mobility technology, or companies focused on nature-based solutions**. We believe an underappreciated opportunity for investors seeking to drive the transition lies in identifying carbon-intensive companies that are positioning themselves to lead decarbonization within their industries.

The transition to net zero, of course, will take decades. The global economy will continue to rely on fossil fuels as emissions-intensive sectors like electricity, industry, and transport work to decarbonize. Some incumbents will be displaced by new technologies or more agile startups, and some will lose out to competitors who are decarbonizing more successfully. **But many other incumbents will thrive, providing important investment opportunities for our clients, and successful decarbonization plans by these companies will be critical to an orderly transition.**]

1 1 3

Dan Tsubouchi @Energy_Tidbits · Feb 8

Crude #Oil stockpiles in West Can down >14 mmb since early Nov, to <25 mmb at end Jan, according to Wood Mackenzie data. At ~36% of storage capacity, lowest utilization observed by Wood Mackenzie during this time of year. Thx @roberttuttle & @WoodMackenzie Dylan White. #OOTT

By Robert Tuttle

(Bloomberg) -- Canadian crude inventories are dwindling as oil-sands producers prepare to shut some operations for maintenance, potentially adding to U.S. supply woes

Crude stockpiles in Western Canada have fallen by more than 14 million barrels since early November, to less than 25 million at the end of January, according to Wood Mackenzie data. At about 36% of storage capacity, this marks the lowest utilization rate observed by Wood Mackenzie during this time of year, analyst Dylan White said by email.

Canada, the U.S.'s biggest foreign oil supplier, has boosted shipments south of the border after new pipeline capacity came online, but the country's stockpiles are shrinking as top producers including Suncor Energy Inc., Canadian Natural Resources Ltd. and Exxon Mobil Corp.'s Imperial Oil plan major maintenance starting as early as next month.

Canada's maintenance season could contribute to a global supply shortfall that has sent benchmark U.S. oil prices surging past $90 a barrel for the first time since 2014 and has prompted several Wall Street banks to predict $100 oil this year.

Suncor's Firebag oil-sands well site will undergo maintenance from May 16 to July that will reduce production by 65,000 barrels a day in the second quarter, and by 20,000 in the third, according to the a local union and company announcements.

Imperial's massive Kearl oil sands mine, Cold Lake well site and at least three upgraders will also undergo work as well.

Canadian heavy crude's discount to West Texas Intermediate futures have narrowed to $14 a barrel from more than $20 in November, NE2 Group data show. Last week, light synthetic crude, produced in an oil sands upgrader, traded at its biggest premium to futures since April.

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1 6 19

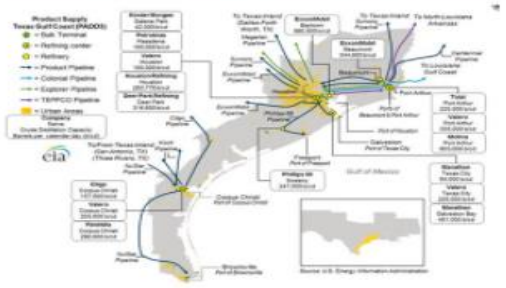
Dan Tsubouchi @Energy_Tidbits · Feb 8

"1.19m b/d of Gulf Coast refinery capacity is down for unplanned reasons" from "Marathon Galveston Bay, Valero Texas City & Valero Houston refineries shut for outages" reports @barbarajpowell8. will impact next week @EIAgov inventory & refinery data. #OOTT

Excerpt https://www.eia.gov/todayinenergy/detail.php?id=25652

FEBRUARY 22, 2016

Pipelines, tankers, and barges convey transportation fuels from Gulf Coast to East Coast



2 5

Dan Tsubouchi @Energy_Tidbits · Feb 8

"Renewables - confidence in 8-10% levered returns" @bp_plc Q4. CEO Looney explained 09/14/20 explained take 5-6% competitive wind bidding & almost double thru adding leverage, farming down, trading & operations/project mgmt. Good thing they have #Oil #LNG for returns. #OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Sep 14, 2020
>
> 
>
> Many good #Oil #NatGas #EnergyTransition insights $BP Day 1 ie. can get 8-10% #Renewable returns by adding value thru applying our processes, integrate with rest of BP like trading. 8-10% is good, but thought these would be upside items and not part of how to g...

2 1

Dan Tsubouchi @Energy_Tidbits · Feb 7

No surprise, #Biden didn't/couldn't really answer question can he really deliver on his promise to help EU with #LNG knowing LNG is more expensive and not available in the volumes that might be needed to replace RUS #NatGas. #OOTT

Excerpt from https://www.whitehouse.gov/briefing-room/statements-releases/2022/02/07/remarks-by-president-biden-and-chancellor-scholz-of-the-federal-republic-of-germany-at-press-conference/

Remarks by President Biden and Chancellor Scholz of the Federal Republic of Germany at Press Conference

FEBRUARY 07, 2022 • STATEMENTS AND RELEASES

East Room

Q (As interpreted.) Mr. President, I would like to ask you a question about LNG. Germany and Europe are much more dependent on Russian gas than other regions of the world, and you promised European allies to help with LNG. But this resource is more expensive, it is not available in the volumes that might be needed to replace Russian gas. And I would like to know from you how you would help Europeans in case of a conflict with Russia. Is this an empty promise, or what can you really do?. What can you offer?

And, in addition, the U.S. are buying oil from Russia worth billions of dollars. And I would like to know whether these transfers are also part of the sanctions package against Russia.

And, Mr. Chancellor — liquefied natural gas. There is a big controversy in Germany about fracking gas and how far is LNG even a real replacement, or is it also with a view to the climate collab you intend to found. Is it really an alternative to Russian pipeline gas?

PRESIDENT BIDEN: Let me respond. First of all, we are looking at opportunities to make up for lost gas — LNG — from Russia. We're underway of trying to see what we can do to do that and dealing with our friends around the world, as well. We think we could make up a significant portion of it that would be lost.

But, you know, what everybody forgets here is Russia needs to be able to sell that gas and sell that oil. Russia relies — a significant part of Russia's budget — it's the only thing they really have to export. And if, in fact, it is cut off, then they're going to be hurt very badly, as well. And it's of consequence to them as well. This is not just a one-way street.

And so, we are looking at what we could do to help compensate for loss of — immediate loss of gas in Europe if it occurs. And that's what we've been working on for some time now.

CHANCELLOR SCHOLZ: (As interpreted.) I can confirm that we work closely with the United States of America, and Joe Biden and I are working closely together as well.

We are prepared for all kinds of situation. And that's part of what we do when we say we prepare sanctions. That means we need to be able to react at any time, and this is happening.

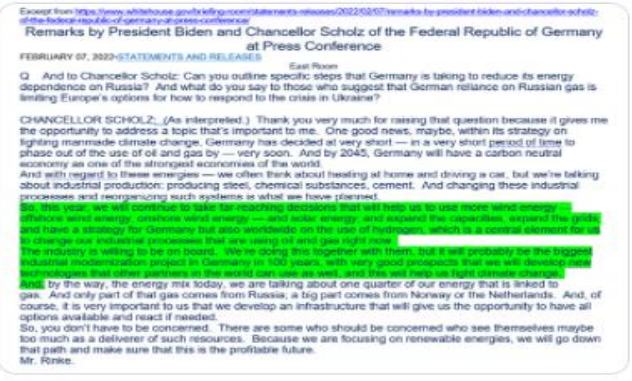
With regard to the use of LNG, I can say that the biggest volume of LNG used across the world is gas, and that is part of the debate.

Concerning a long-term perspective, I already outlined what this is about. We will modernize our economy. And where gas is being used, we will switch to hydrogen. This will be a process that will happen faster than many might imagine today, and that will create a bright future for all of us.

5 3 7

Dan Tsubouchi @Energy_Tidbits · Feb 7

"biggest industrial modernization in DE in 100 yrs" ".. use of #Hydrogen, which is a central element for us to change our industrial processes that are using #Oil & #NatGas right now" says @OlafScholz. will take decades, add big $$$ to energy costs & add reliability risk #OOTT



Excerpt from https://www.whitehouse.gov/briefing-room/statements-releases/2022/02/07/remarks-by-president-biden-and-chancellor-scholz-of-the-federal-republic-of-germany-at-press-conference/

Remarks by President Biden and Chancellor Scholz of the Federal Republic of Germany at Press Conference

FEBRUARY 07, 2022 • STATEMENTS AND RELEASES

East Room

Q And to Chancellor Scholz: Can you outline specific steps that Germany is taking to reduce its energy dependence on Russia? And what do you say to those who suggest that German reliance on Russian gas is limiting Europe's options for how to respond to the crisis in Ukraine?

CHANCELLOR SCHOLZ: (As interpreted.) Thank you very much for raising that question because it gives me the opportunity to address a topic that's important to me. One good news, maybe, within its strategy on fighting manmade climate change, Germany has decided at very short — in a very short period of time to phase out of the use of oil and gas by — very soon. And by 2045, Germany will have a carbon neutral economy as one of the strongest economies of the world.

And with regard to these energies — we often think about heating at home and driving a car, but we're talking about industrial production: producing steel, chemical substances, cement. And changing these industrial processes and reorganizing such systems as what we have planned.

So, this year, we will continue to take far-reaching decisions that will help us to use more wind energy — offshore wind energy, onshore wind energy — and solar energy; and expand the capacities, expand the grids; and have a strategy for Germany but also worldwide on the use of hydrogen, which is a central element for us to change our industrial processes that are using oil and gas right now.

The industry is willing to be on board. We're doing this together with them, but it will probably be the biggest industrial modernization project in Germany in 100 years, with very good prospects that we will develop new technologies that other partners in the world can use as well, and this will help us fight climate change.

And, by the way, the energy mix today, we are talking about one quarter of our energy that is linked to gas. And only part of that gas comes from Russia, a big part comes from Norway or the Netherlands. And, of course, it is very important to us that we develop an infrastructure that will give us the opportunity to have all options available and react if needed.

So, you don't have to be concerned. There are some who should be concerned who see themselves maybe too much as a deliverer of such resources. Because we are focusing on renewable energies, we will go down that path and make sure that this is the profitable future.

Mr. Rinke.

1 2 2

Dan Tsubouchi @Energy_Tidbits · Feb 7

looks like the below vitol asia head @michaelwmuller getting lot of attention today #OOTT #Oil

> **Dan Tsubouchi** @Energy_Tidbits · Feb 6
>
> 1/3. what an opening statement from @michaelwmuller to @sean_evers "market is telling you be careful, don't be short because we are one disruption, one refinery wobble away from markets getting even stronger. #OOTT twitter.com/gulf_intel/sta...
>
> Show this thread

SAF Group created transcript of excerpts from Gulf Intelligence podcast "Daily Energy Markets – Feb 6th" (link). Sean Evers, Managing Partner Gulf Intelligence, Mike Muller, Head Vitol Asia, Christof Ruhl, Senior Research Scholar Center on Global Energy Policy Columbia University

Items in "italics" are SAF Group created transcript

At 0:50 min mark, Evers re all bullish oil items like Aramco raising OSP, "you told us last time, more or less pointed in this direction firmly, do you think this keeps moving from here?" Muller "well, it's come $2.50 last week and about $2.50 the previous week as well so it's not an unrestrained rally but, Yes, markets have very high implied volatility at these levels. And we have moved from a market that at the end of the year seemed a little bit to be in a risk off mode to people now seem to take great interest in the energy complex. But the bit I like to come to straight away here is fundamentals because there are a lot of people saying that, and I have heard some of your podcast last week for example suggesting, there are fundamental signs that are mixed. And my view is that it's a very resolute positive. There are reasons why the market is backward at the front and so backward, so much so that the market is telling you be careful, don't be short because we are one disruption, one refinery wobble away from markets getting even stronger. Whether it's the backwardation in the distillates market, whether it's jet fuel is trading at or above gas/oil, whether it's the backwardation in crude, these are all the manifestation of tightness up at the front where there is scarcity or a perceived scarcity of supply, which is not being helped by a combination of many refinery closures in recent years for reasons we know. Plus unscheduled refinery issues. Plus certainly in Europe the need to factor in higher gas prices and carbon prices into refinery margins. so refining margins are telling you refineries should be running flat out because product cracks are at levels we haven't seen for many, many months. As a consequence, that should be pulling very hard on crude markets. And inventories continue to sit at levels that are worrisome, and then we'll start talking about where the spare capacity is and the pace and rate of investments in the US is not quite what it was before, we're still nowhere near the peak that we saw pre-pandemic in terms of US production capacity. And the spare capacity in OPEC+ is really down to two and a half or three numbers now and month after the month the 400,000 barrels per day that is being put on the market is actually, in effect, a much much smaller number than that, which leads us to a point in time that we can debate whether it's the 2nd half of this year or sometime next year, OPEC spare capacity reaches levels that are considered alarming. So much so that the debate has now swung to how soon we need Iranian supply to help alleviate the situation. Or whether there is even a need for more SPR because the way the SPR releases that Joe Biden's administration initiated over a month back were, with hindsight, just a small event."

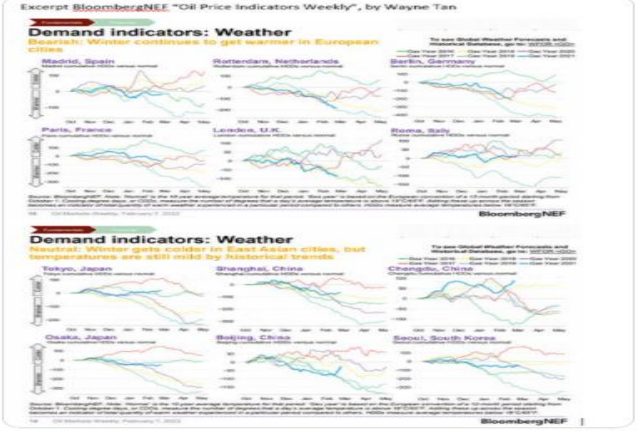
Prepared by SAF Group https://safgroup.ca/news-insights/

4 5

Dan Tsubouchi @Energy_Tidbits · Feb 7

Hope EU doesn't forget what should allow them to sneak thru winter with only really high #NatGas prices but not a shortage/outage. It's been a warm winter in EU & Asia. Need a better winter 2022/23 strategy than pray for hot temp. Charts f/ @BloombergNEF @WayneTanMing #OOTT #LNG

> Excerpt BloombergNEF "Oil Price Indicators Weekly", by Wayne Tan



4 5

Dan Tsubouchi @Energy_Tidbits · Feb 7

congrats to @MackenskiBC @abi_strate @MatthewSoukup97 @Ale_Loutitt! ski jumping is one of the great spectator sports, was lucky enough to be at men's ski jumping at Calgary 1988 olympics and the Calgary crowd was cheering so hard for Horst Bulau and Steve Collins.

> **Team Canada** @TeamCanada · Feb 7
>
> HISTORIC BRONZE 🥉🇨🇦
>
> #TeamCanada 🅾️ wins its first ever ski jumping medal with a bronze in the inaugural mixed team event 🎉🙌🤩
>
> Details ➡️ bit.ly/35V4hR3

3

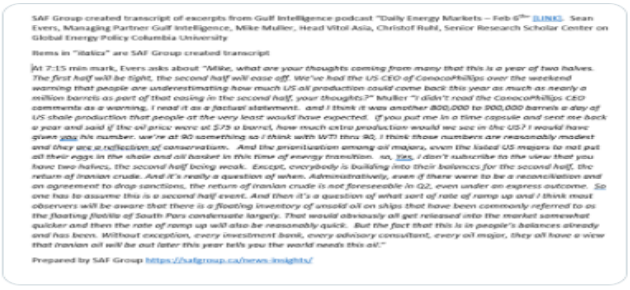
Dan Tsubouchi @Energy_Tidbits · Feb 7

#JetFuel. "Australia will reopen to all fully vaccinated visa holders, welcoming the return of tourists, business travellers, and other visitors from 21 February" #OOTT pm.gov.au/media/reopenin...

1 3 7

Dan Tsubouchi @Energy_Tidbits · Feb 6

"yes, i don't subscribe to the view that ou have two halves, the 2nd half being weak [for #Oil]", everyone has "a view that Iranian oil will be out later this yr tells you the world needs this oil" says @vitolnews @michaelwmuller to @gulf_intel @sean_evers. #OOTT



SAF Group created transcript of excerpts from Gulf Intelligence podcast "Daily Energy Markets – Feb 6th" (LINK). Sean Evers, Managing Partner Gulf Intelligence, Mike Muller, Head Vitol Asia, Christof Ruhl, Senior Research Scholar Center on Global Energy Policy Columbia University

Items in "italics" are SAF Group created transcript

At 7:15 min mark, Evers asks about "Mike, what are your thoughts coming from many that this is a year of two halves. The first half will be tight, the second half will ease off. We've had the US CEO of ConocoPhillips over the weekend warning that people are underestimating how much US oil production could come back this year as much as nearly a million barrels as part of that easing in the second half, your thoughts?" Muller "I didn't read the ConocoPhillips CEO comments as a warning, I read it as a factual statement. and I think it was another 800,000 to 900,000 barrels a day of US shale production that people at the very least would have expected. If you put me in a time capsule and sent me back a year and said if the oil price were at $73 a barrel, how much extra production would we see in the US? I would have given you his number. we're at 90 something so I think with WTI thru 90, I think those numbers are reasonably modest and they are a reflection of conservatism. And the prioritization among oil majors, even the listed US majors to not put all their eggs in the shale and oil basket in this time of energy transition. so, Yes, I don't subscribe to the view that you have two halves, the second half being weak. Except, everybody is building into their balances for the second half, the return of Iranian crude. And it's really a question of when. Administratively, even if there were to be a reconciliation and an agreement to drop sanctions, the return of Iranian crude is not foreseeable in Q2, even under an express outcome. So one has to assume this is a second half event. And then it's a question of what sort of rate of ramp up and I think most observers will be aware that there is a floating inventory of unsold oil on ships that have been commonly referred to as the floating flotilla of South Pars condensate largely. That would obviously all get released into the market somewhat quicker and then the rate of ramp up will also be reasonably quick. But the fact that this is in people's balances already and has been. Without exception, every investment bank, every advisory consultant, every oil major, they all have a view that Iranian oil will be out later this year tells you the world needs this oil."

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

3 7

Dan Tsubouchi @Energy_Tidbits · Feb 6

More support for why it looks like the end of GoM #Oil #NatGas lease sales under #Biden. Note @jakejsullivan answer to @marthamaccallum asking why not reopen GoM lease sales? #OOTT

Excerpt from https://www.foxnews.com/transcript/fox-news-sunday-on-february-6-2022

'Fox News Sunday' on February 6, 2022 Fox News

This is a rush transcript of "Fox News Sunday" on February 6, 2022. This copy may not be in its final form and may be updated.

MARTHA MACCALLUM, FOX NEWS ANCHOR: I'm Martha MacCallum.

Joining us now, National Security Advisor Jake Sullivan.

MACCALLUM: Why not reopen the Keystone pipeline and reopen federal leases on U.S. land? Because we had energy independence and that was large leverage for the United States over Russia. Now we don't have that anymore. In fact, we now buy more fuel from Russia than we have in the past.

So how -- why wouldn't you want to revisit those in order to increase our leverage over Russia?

SULLIVAN: Well, first, Martha, the United States is still a substantial producer of energy. Second, we have worked with partners around the world to take steps to ensure that Russia's attempts to use energy as a weapon get frustrated.]

One of the things that President Biden has been very focused on is making sure that if Putin turns down the supply of gas to Europe, that we can find cargoes of liquefied natural gas going elsewhere in the world and redirect them to Europe. So the United States is prepared for a contingency against Russia --

(CROSSTALK)

MACCALLUM: But you do concede that we're no longer energy independent, Jake? And we were before.

SULLIVAN: What I would say is that the United States is investing massively in being a leader in energy transition in which, yes, for now, we continue to use fossil fuels but over the course of years and decades, we become a clean energy superpower, because that ultimately is not just where the jobs are. It's where the strategic advantage will be, because we can't just look at next year or the year after. That's not what China is doing.

We have to look out 10, 20, 30 years. And over those years, President Biden's investments and his visions for how to make the United States the world's clean energy superpower, that's what's going to put us in the best strategic position alongside democratic, like-minded allies and partners.

> **Dan Tsubouchi** @Energy_Tidbits · Jan 28
>
> Peak GoM #Oil #NatGas supply is now assured. Looks like end of GoM #Oil #NatGas lease sales under #Biden. "documented serious deficiencies" "need to take the time to make significant & long overdue programmatic reforms". Also will these reforms impact more than lease sales? #OOTT twitter.com/MSchwartz3/sta...

1 3 2

Dan Tsubouchi @Energy_Tidbits · Feb 6

Our weekly SAF Feb 6, 2022 Energy Tidbits memo is posted on our SAF Group website. This 48-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

Feb 6, 2022

Produced by: Dan Tsubouchi

Biden's Team Messages Prepared to Give on "Details" to Get JCPOA Done

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 1989 with input from PMs, who were looking for research (both positive and negative items) that helped them shape their investment theses in the energy space, and not just focussing 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 focussing 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. US messages it is prepared to make concessions to get JCPOA done, but any give will be messaged as a detail. (Click Here)
2. IEA warns that absent *"strong policies to curb demand growth"*, *"gas supply adequacy could emerge as a concern for the medium term"* (Click Here)
3. Shell didn't name projects for its LNG supply growth, but lists LNG Canada Phase 2 as one of its three pre-FID LNG supply projects (Click Here)
4. TotalEnergies CEO signals a lifting of its Mozambique LNG force majeure could be in a few months (Click Here)
5. Many excellent oil market insights from Vitol's Head Asia, Mike Muller, this morning. (Click Here)
6. Please follow us on Twitter at @_ENIQ 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 @_ENIQ

1 3 8