# Energy Tidbits

## IEA: Extension of Saudi & Russia Output Cuts Thru Yr-End "*Will Lock in a Substantial [Oil] Market Deficit Through 4Q23*"

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# Short-Term Energy Outlook

## Overview

| U.S. energy market indicators | 2022 | 2023 | 2024 |
|---|---|---|---|
| **Brent crude oil spot price** (dollars per barrel) | **$101** | **$84** | **$88** |
| **Retail gasoline price** (dollars per gallon) | **$3.97** | **$3.60** | **$3.52** |
| **U.S. crude oil production** (million barrels per day) | **11.91** | **12.78** | **13.16** |
| **Natural gas price at Henry Hub** (dollars per million British thermal units) | **$6.42** | **$2.58** | **$3.24** |
| **U.S. liquefied natural gas gross exports** (billion cubic feet per day) | **10.6** | **11.6** | **13.2** |
| **Shares of U.S. electricity generation** | | | |
| Natural gas | 39% | 42% | 40% |
| Coal | 20% | 16% | 15% |
| Renewables | 22% | 22% | 25% |
| Nuclear | 19% | 19% | 19% |
| **U.S. GDP** (percentage change) | **2.1%** | **2.2%** | **1.4%** |
| **U.S. $CO_2$ emissions** (billion metric tons) | **4.96** | **4.79** | **4.75** |

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

- **Global oil production.** This *Short-Term Energy Outlook* (STEO) incorporates Saudi Arabia's September 5 announcement to continue its voluntary crude oil production cut of 1 million barrels per day (b/d) through the end of this year. Previously, the voluntary cut was set to expire at the end of September. Global oil inventories in our forecast fall by 0.2 million b/d in the fourth quarter of 2023 (4Q23) based on the extension of this production cut.

- **Crude oil prices**. We expect the Brent crude oil price to average $93 per barrel (b) during 4Q23, up from $86/b in August. A decline in global oil inventories in the coming months supports the Brent price in our forecast. The price eases to an average of $87/b by the second half of 2024 because we expect global oil inventories to rise during that period.

- **U.S. gasoline consumption**. We reduced our U.S. gasoline consumption forecast because the U.S. Census Bureau revised its population estimates for the United States to include fewer people of working age and more people of retirement age, who tend to drive less. The revised population estimates have also resulted in a downward revision of our vehicle miles traveled (VMT) forecast, which directly affects motor gasoline consumption. We forecast U.S. gasoline consumption will average 8.9 million b/d in 2023 and 8.7 million b/d in 2024. Our 2024 forecast is down by 0.2 million b/d from our August STEO.

- **Total U.S. liquid fuels consumption**. In our forecast, U.S. liquid fuels consumption averages 20.1 million b/d in 2023, down 0.3 million b/d from last month's forecast. In addition to reduced gasoline

consumption, this forecast incorporates changes to the *Petroleum Supply Monthly* that reclassified natural gasoline and unfinished oils from product supplied to crude oil supply to more accurately represent the use of these products. These changes also reduce our forecast 2024 consumption by 0.5 million b/d to 20.3 million b/d.

- **Natural gas consumption.** U.S. natural gas consumption in our forecast averages 80.5 billion cubic feet per day (Bcf/d) in September, an increase of 5% from last September and a record for September. The increase follows a period of elevated natural gas-fired electricity generation from strong U.S. air-conditioning demand in response to summer heat as well as reduced generation from coal-fired plants.

- **Electricity generation.** We forecast electricity generation in 3Q23 will increase by 2% in the United States from the same period last year. The increase largely reflects warmer temperatures this summer and it follows a year-over-year 4% decline in electricity output during the first half of 2023.

- **Propane price.** Beginning with this STEO, we are publishing a forecast for the Mont Belvieu propane spot price. One of our *Between the Lines* supplements this month discusses this forecast in more detail.

**Notable forecast changes**

| current forecast: September 12, 2023; previous forecast: August 8, 2023 | 2023 | 2024 |
|---|---|---|
| **Total U.S. liquid fuels consumption (current forecast)** (million barrels per day) | **20.1** | **20.3** |
| Previous forecast | 20.5 | 20.7 |
| Percentage change | -1.6% | -2.2% |
| **U.S. gasoline consumption (current forecast)** (million barrels per day) | **8.9** | **8.7** |
| Previous forecast | 8.9 | 8.9 |
| Percentage change | -0.4% | -2.0% |
| **U.S. diesel retail price (current forecast)** (dollars per gallon) | **$4.31** | **$4.07** |
| Previous forecast | $4.17 | $3.94 |
| Percentage change | 3.5% | 3.4% |
| **U.S. natural gas consumption in the electric power sector (current forecast)** (billion cubic feet per day) | **35.3** | **33.9** |
| Previous forecast | 34.8 | 33.5 |
| Percentage change | 1.5% | 1.3% |
| **U.S. Real gross domestic product (current forecast)** (percentage) | **2.2%** | **1.4%** |
| Previous forecast | 1.9% | 1.2% |
| Percentage point change | 0.3 | 0.2 |

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

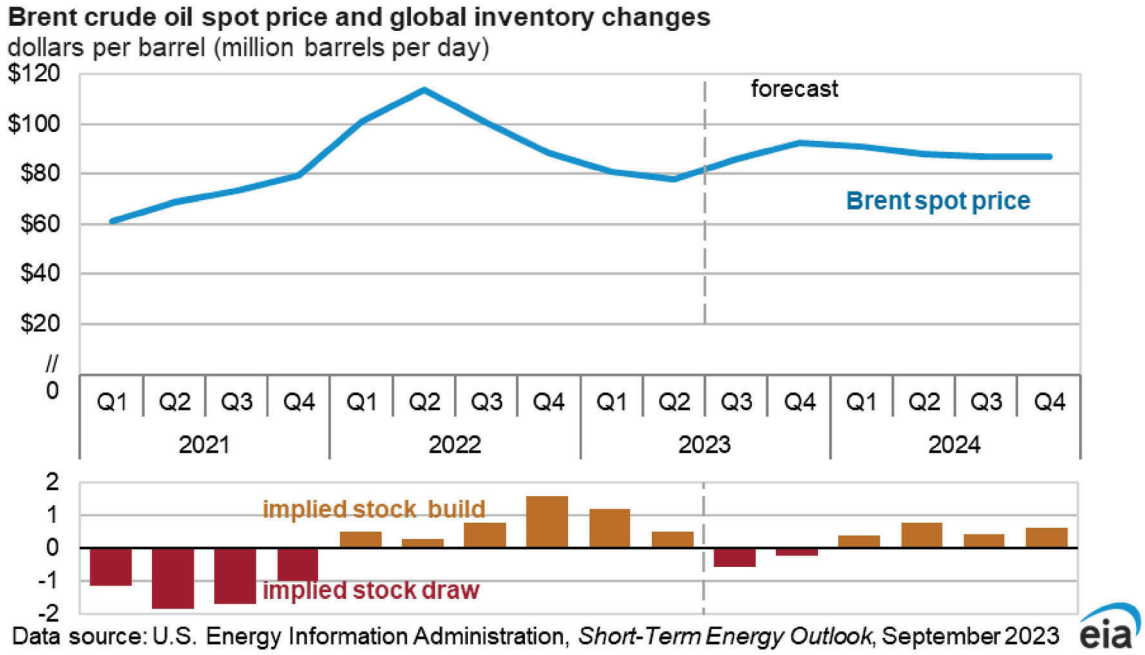
# Global Oil Markets

## Global oil prices

Following Saudi Arabia's September 5 announcement to extend its voluntary 1 million barrel per day (b/d) production cut through the end of this year, we expect that global oil inventories will fall over that period, adding upward pressure to oil prices in the coming months. The Brent crude oil spot price in our forecast averages $93 dollars per barrel (b) in the fourth quarter of 2023 (4Q23). Prices should decline beginning in 2024 as oil inventories build, with prices averaging $88/b next year. The inventory builds next year largely reflect slowing oil demand growth, non-OPEC oil production growth, and the end of Saudi Arabia's voluntary production cuts.

The Brent spot price averaged $86/b in August, up $11/b since June. Oil prices increased in August primarily because Saudi Arabia extended voluntary crude oil production cuts through September and U.S. commercial crude oil inventories ended August at their lowest level since December 2022.

## Global oil demand and inventories




Our current assessment is that global oil inventories are falling by 0.6 million b/d in 3Q23. Inventory draws moderate to 0.2 million in 4Q23, but OPEC+ cuts to oil production keep global oil production lower than global oil demand. As a result, we expect the Brent spot price will remain above $90/b through 1Q24 before averaging $87/b over the remaining three quarters of next year. However, the potential for continued voluntary production cuts creates some upside risk for oil prices.

## Global oil supply

We forecast global liquid fuels production will increase by 1.2 million b/d in 2023 despite recent voluntary decreases in production from OPEC+. Global production in our forecast increases by 1.7 million b/d in 2024. Non-OPEC production is the main driver of global production growth in our forecast,

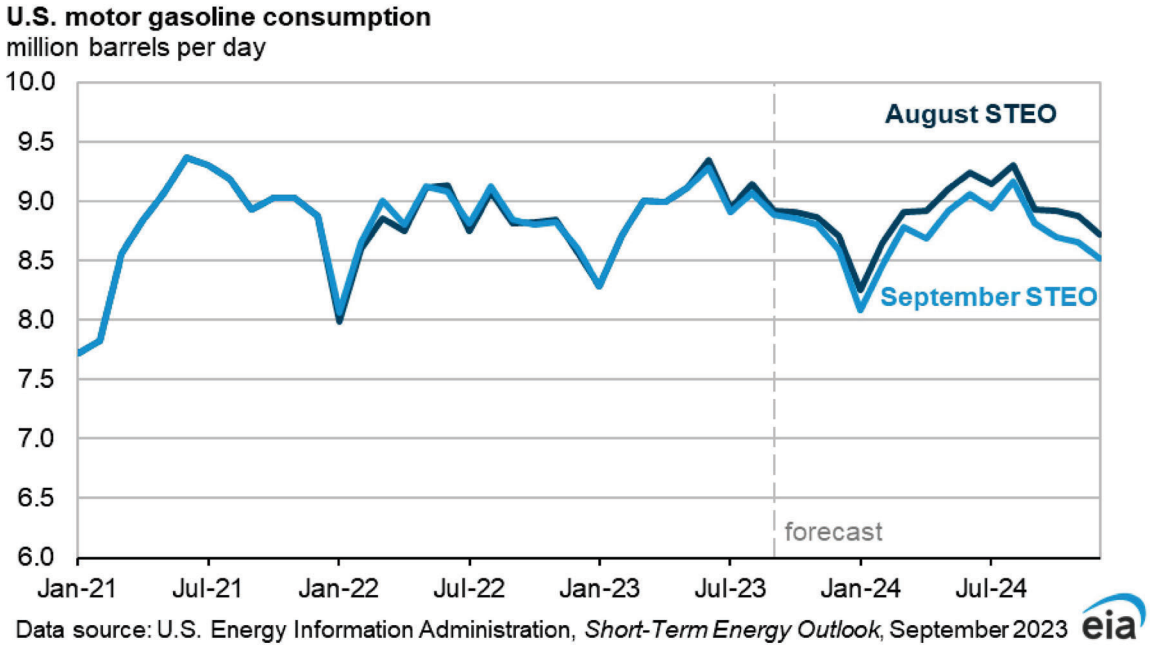
increasing by 2.0 million b/d in 2023 and 1.3 million b/d in 2024, led by the United States, Brazil, Canada, and Guyana. We expect Russia's production will decline by 0.3 million b/d on average this year and remain relatively unchanged in 2024. We forecast that OPEC crude oil production will fall by 0.8 million b/d in 2023 and increase by 0.4 million b/d in 2024.

# Petroleum Products

## U.S. motor gasoline consumption

We reduced our vehicle miles traveled (VMT) forecast—which directly affects motor gasoline consumption—following the release of new population estimates from the U.S. Census Bureau. The revision increased the share of the U.S. population over 65, which reduced our forecast for VMT and gasoline consumption because it decreased our estimate of the working-age population commuters. In our September STEO forecast, the share of the U.S. population that will be over 65 is 18.2% in 2024, up from our August STEO forecast of 18.0%. This seemingly small increase adds 0.7 million individuals to the population of adults over 65. Although the total population remained unchanged, the U.S. Census Bureau revised the population under the age of 15 down by 0.5 million and the working-age population down by 0.2 million people. We define the working-age population as ages 15–64 because this group accounts for the bulk of the workforce and regular commuting.

In our September STEO, we forecast U.S. gasoline consumption will average 8.9 million barrels per day (b/d) in 2023 and 8.7 million b/d in 2024 (down from our August STEO forecast of 8.9 million b/d in 2024). As a result of the revisions, we forecast that gasoline consumption will decline by 1.6% in 2024 compared with this year.

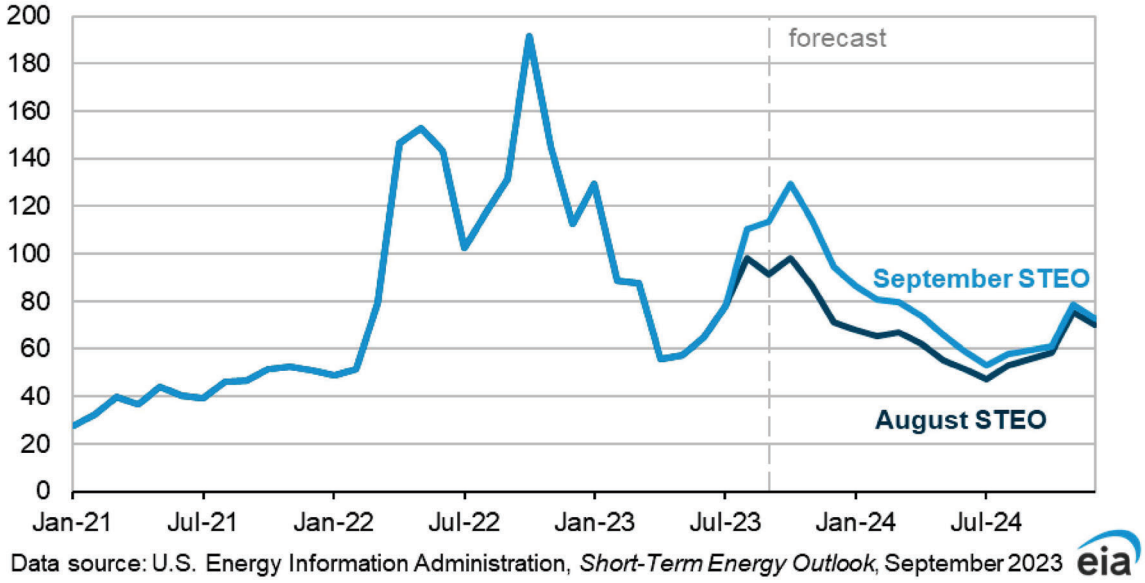


## U.S. diesel crack spread

We raised our diesel price forecast because of higher-than-expected August diesel crack spreads (the price of a gallon of diesel minus the price of a gallon of crude oil) and our expectation for lower distillate inventories in the fall. Announced maintenance at the Irving Oil refinery in St. John, New Brunswick, and at the Monroe Energy refinery in Trainer, Pennsylvania, will reduce distillate fuel oil supplies to the East Coast. Total distillate inventories in the United States have been well below average since last year, and we currently estimate U.S. distillate inventories will decline by about 11 million barrels in October, more than the average October draw from 2018–22 of nearly 8 million barrels, largely because of the maintenance. The draw will contribute to additional increases in the distillate crack spread in October, which we estimate will average $1.29 per gallon (gal), a 31-cent increase compared with the August STEO.

Both seasonal increases in demand along with refinery maintenance will reduce distillate inventories. Increased seasonal demand will also reduce inventories. East Coast distillate demand tends to increase in the winter months because many households in the U.S. Northeast use distillate heating oil, while Midwest distillate demand tends to increase in September and October because of agricultural demand associated with the harvest season. Refinery maintenance and increased end-of-year distillate consumption are typical in most years, but our outlook for higher distillate crack spreads also reflects low global distillate inventories.

**U.S. average distillate crack spread**
cents per gallon




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

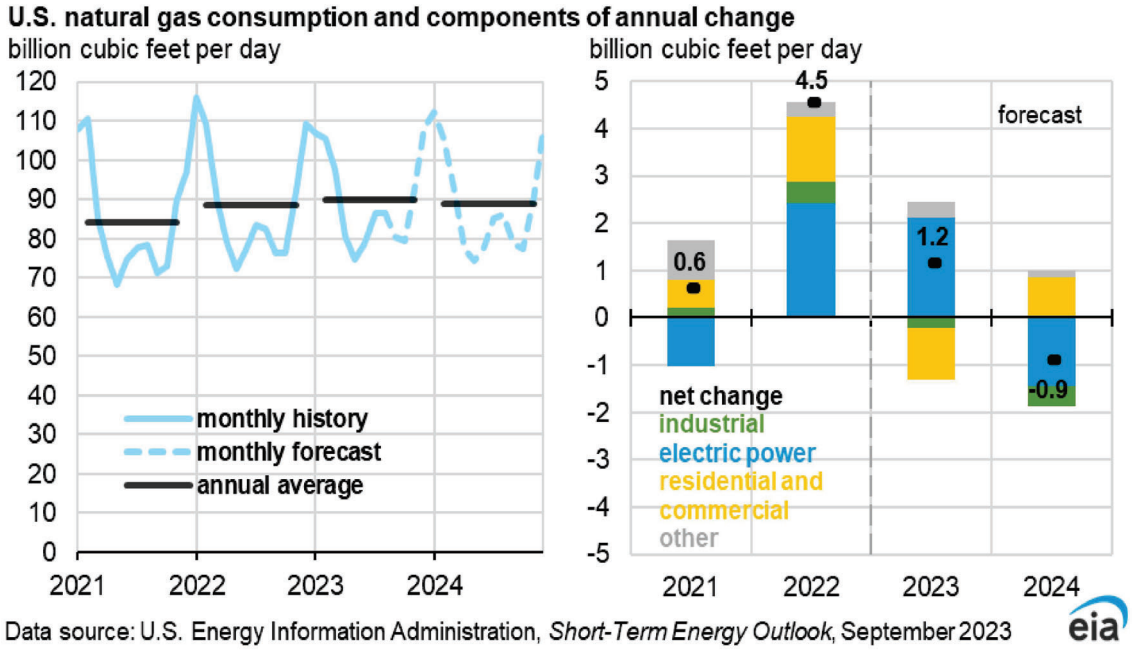
# Natural Gas

## Natural gas consumption

We forecast U.S. natural gas consumption in September to average 80.5 billion cubic feet per day (Bcf/d), a record high for September and up 5% from the previous record set in September 2022. Based

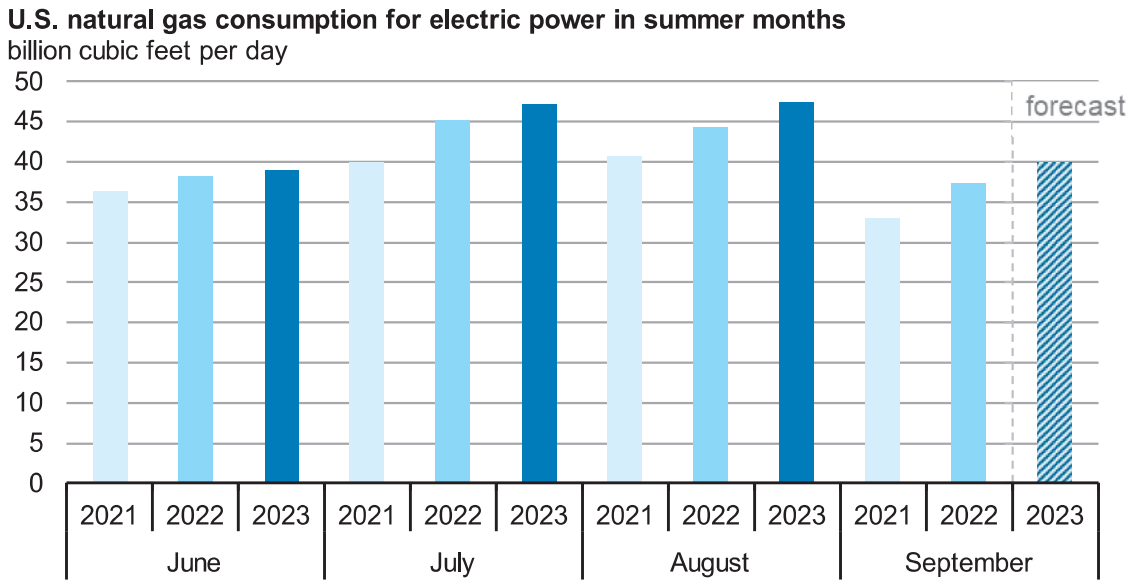
on our estimates, September would be the third straight month of record natural gas consumption in the United States, after records in July (86.5 Bcf/d) and in August (86.7 Bcf/d).

The increase in natural gas consumption in the summer has led to a slight increase in U.S. natural gas consumption in 2023. We forecast U.S. natural gas consumption to average 89.7 Bcf/d for all of 2023, up 1% from 2022. Annual U.S. natural gas consumption set its previous record high in 2022, averaging 88.6 Bcf/d for the year.




## Electric power sector consumption of natural gas

We forecast natural gas consumption in the U.S. electric power sector will average 40.1 Bcf/d in September, a record for the month and an increase of 7%, or 2.7 Bcf/d, from the previous record set in September 2022. Natural gas consumption for electric power also set monthly records of 47.3 Bcf/d in both July and August, based on STEO estimates. We forecast U.S. natural gas consumption in the electric power sector to average 35.3 Bcf/d for all of 2023, an increase of 6%, or 2.1 Bcf/d, from the previous record set in 2022.




Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, September 2023
Note: September 2023 is a forecast.

In the United States, natural gas provides most of the fuel for the increase in summer electricity generation. U.S. natural gas consumption for electric power has set records the past two summers as hot weather has increased demand for air conditioning across the country, particularly in largely populated areas such as Texas, Florida, and Southern California. Increases in air-conditioning demand have led to increases in overall electricity generation. The portion of electricity generation that comes from natural gas has also risen the past two summers reflecting a decline in coal-fired electricity generation, resulting from the retirement of coal-fired power plants. In 2023, natural gas prices for the electric power sector have averaged about $2.65/MMBtu from June through August, making natural gas a more competitive source of electricity generation compared with coal. In addition, several new natural gas-fired power plants entered service in 2022 and 2023, which increased the electric generation capacity available from natural gas.

In 2024, we forecast annual U.S. natural gas consumption in the power sector to decline between 1 to 2 Bcf/d in (about 4%) compared with 2023. This decline reflects competition from growing electric generation capacity from renewable energy sources, and it drives a small decline in total natural gas consumption next year.

# Electricity, coal, and renewables

## Electricity generation

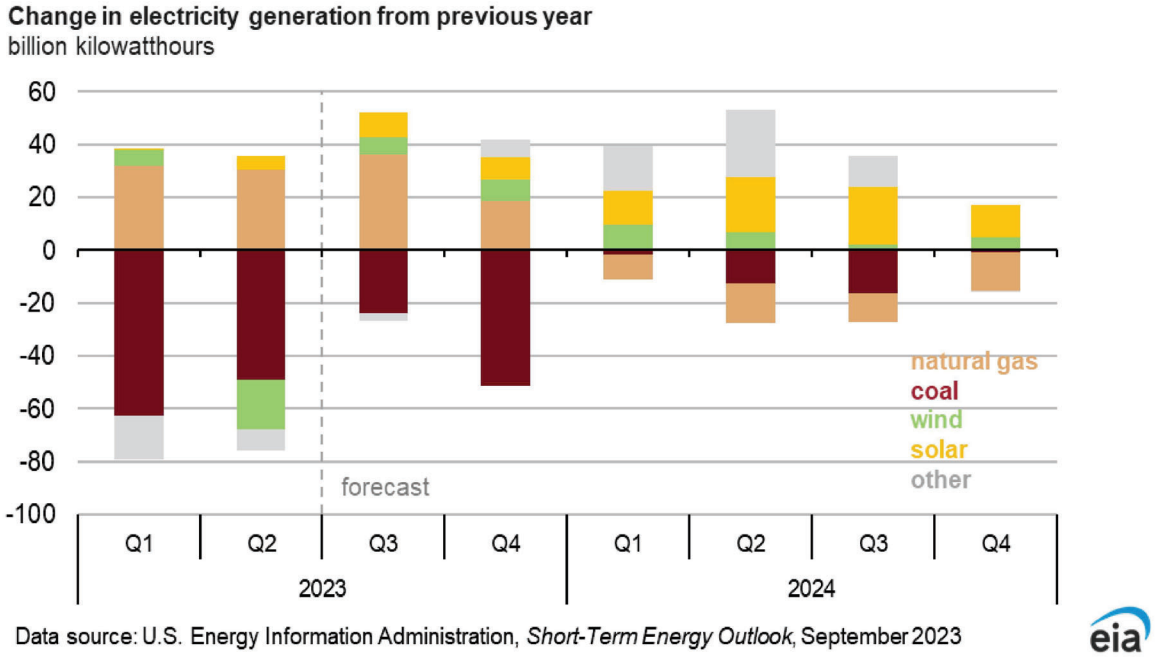
We expect that high temperatures over much of the nation this summer have raised U.S. electricity generation by about 2% during the third quarter of 2023 (3Q23) compared with 3Q22. The increase comes after relatively low electricity demand in the first half of 2023 reduced generation by 4%.

We expect U.S. natural gas-fired power plants will generate a record of more than 1,700 billion kilowatthours (kWh) in 2023, an increase of 7% from 2022. Increased U.S. natural gas generation has

been stimulated by a substantial decline in fuel costs, which we forecast to average near $3.30 per million British thermal units (MMBtu) in 2023, down more than 50% from 2022. Between 8 gigawatts (GW) and 9 GW of new natural gas-fired generating capacity this year is also contributing to the increased generation. Although natural gas-fired generation will remain the main source of U.S. electricity in 2024, we forecast that it will decline by 3% in 2024 because of increased generation from renewable energy sources.

Solar and wind have been a growing source of U.S. electricity generation in recent years. The addition of new generating capacity from solar (up by 11 GW) and wind (up by 8 GW) slowed slightly in 2022 compared with 2021 due to supply chain issues that raised costs. However, favorable financial incentives now in place are driving increases in utility-scale solar capacity of 26 GW in 2023 and 33 GW in 2024, which would be the most solar installations for any year on record.

Renewable capacity additions tend to occur at the end of the calendar year and so affect generation trends the following year. We forecast U.S. generation from renewables other than hydropower will increase by 22 billion kWh in 2023 (up 4%) and by 91 billion kWh in 2024 (up 14%).



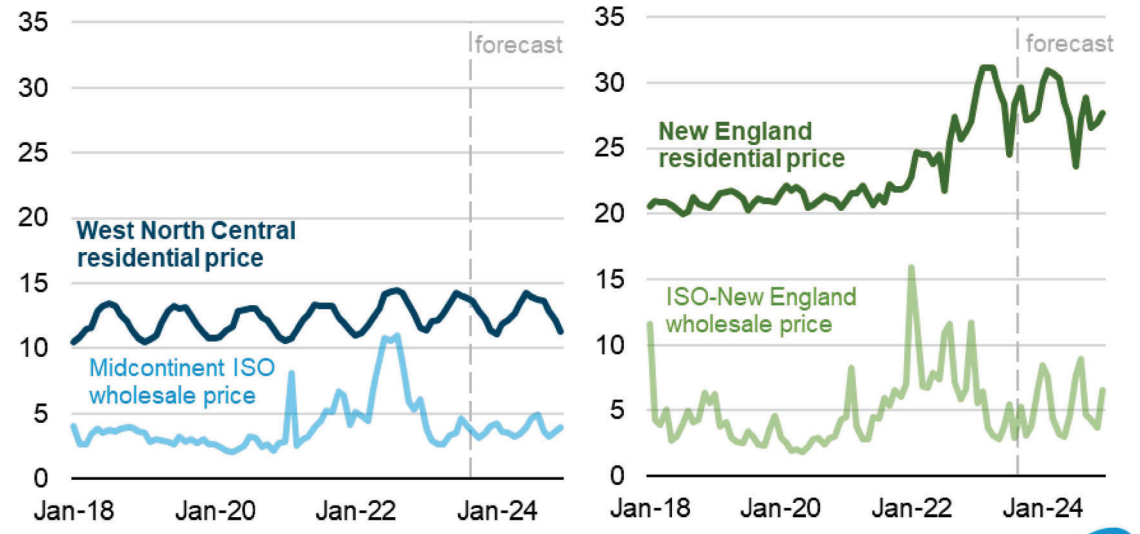

## Electricity prices

We forecast the average price of electricity to U.S. residential customers will increase by 4% in 2023 to 15.7 cents/kWh. Electricity prices rose about 11% in 2022 to 15.1 cents/kWh due to increases in the cost of producing electricity. Reductions in the wholesale price of electricity, largely due to lower natural gas prices in 2023, should help lower residential prices in the future; our forecast shows average U.S. residential electricity prices declining slightly in 2024 to 15.6 cents/kWh.

Some of the lowest retail electricity prices in the United States are in the midwestern states. For example, the residential price in the West North Central Census Division averaged about 13 cents/kWh in 2022, and wholesale prices at the Midcontinent ISO averaged 7.4 cents/kWh. In contrast, residential

electricity prices in New England averaged 25 cents/kWh in 2022, and the ISO-New England wholesale price averaged 9.2 cents/kWh.

**Residential electricity price and wholesale power price, selected regions**
cents per kilowatthour




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

Wholesale power prices are good indicators of the current costs of electricity generation. But retail prices also reflect longer-term costs such as maintaining the transmission and distribution system and procuring capacity to supply future demand. A lag exists between when costs are incurred and when they are reflected on retail electricity bills. These longer-term cost components tend to cause retail price increases over time, despite fluctuations in wholesale electricity prices.

We forecast that wholesale prices for both the Midcontinent and New England independent system operators in 2023 and 2024 will average about 40%–50% lower than in 2022. Electricity customers in the West North Central Census Division may see slightly lower rates in 2023 and 2024, reflecting the lower near-term costs of power generation. However, long-term costs of supplying power continue to increase in New England because of capacity constraints in the region and the reliance on high-cost petroleum-fired electricity generation during periods of very cold weather. These dynamics are reflected in our expected New England retail rate increase of 16% in 2023 followed by a 2% reduction in 2024.

## Coal markets

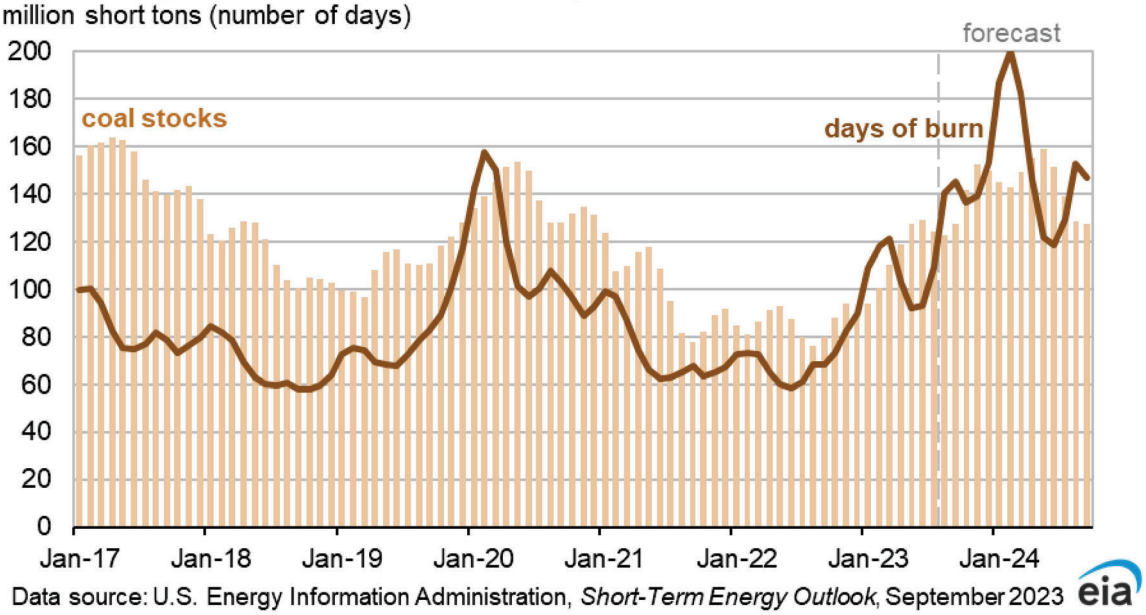
Coal production in our forecast falls to 583 million short tons (MMst) in 2023, 2% less than the 597 MMst mined in 2022. We expect a steeper decline in 2024 when coal production drops 20% to 464 MMst. The reduction in 2024 is due largely to a 20% decrease in electric power sector coal use this year. The delayed response of production to the drop in coal-fired generation results from coal producers fulfilling supply contracts already in place for 2023 and the contracts not being renewed for 2024.

At prevailing prices, coal-fired plants are unable to compete effectively with lower-priced natural gas-fired and renewable energy generation. Poor economics for coal are also resulting in an estimated 9.8 GW (5%) of coal-fired generating capacity being permanently retired this year. Because of greatly

reduced power generation from coal, we forecast that inventories of coal held by power companies will increase 60% in 3Q23 compared with 3Q22. Even though we forecast coal stocks to decline slightly by early 2024, the gap between coal produced and consumed will remain wide in 2023 compared with 2022, when high natural gas prices increased summer demand for coal, but labor shortages slowed coal production and delivery, depleting coal stocks.

Coal stocks allow utilities to generate electricity in times of high demand and when coal production is low or coal delivery is slow. Almost 60 GW of coal-fired generation has retired since the end of 2018, a reduction of 25%, and because older units are usually retired first, the current fleet is more energy efficient and needs less stock to produce the same amount of burn days. As of the end of August, we estimate utilities held coal stocks that would cover 140 days of power burn, compared with an average of 76 days over the past five Augusts.

**U.S. electric power sector coal stocks and days of burn**
million short tons (number of days)




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

# Economy, Weather, and $CO_2$

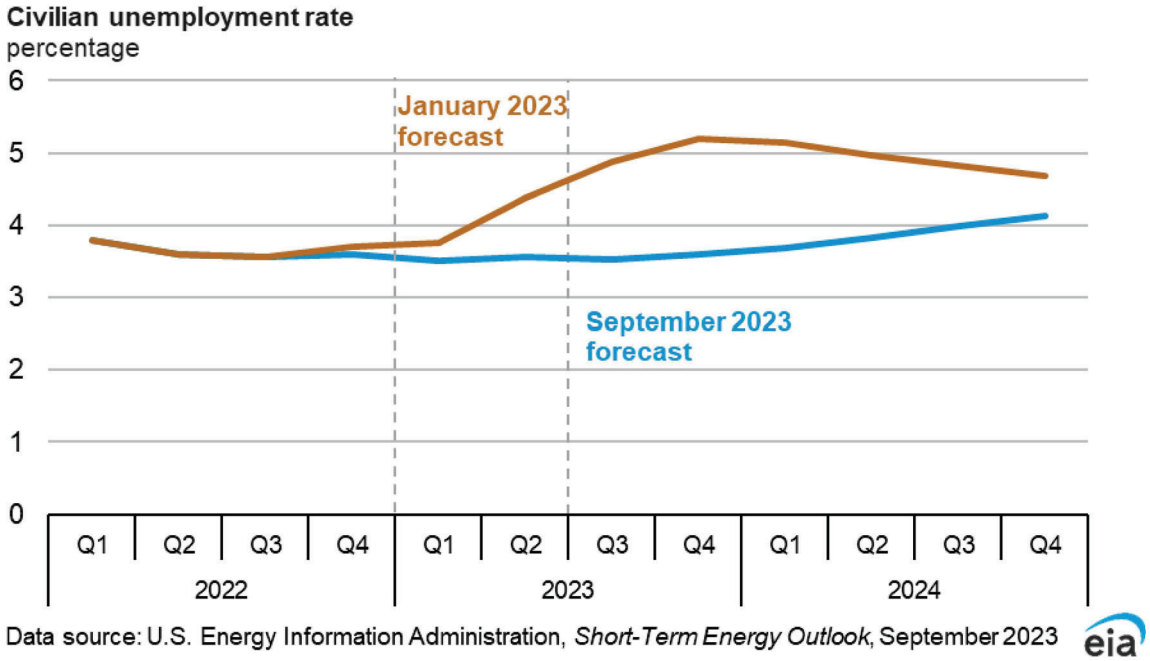
## U.S. macroeconomics

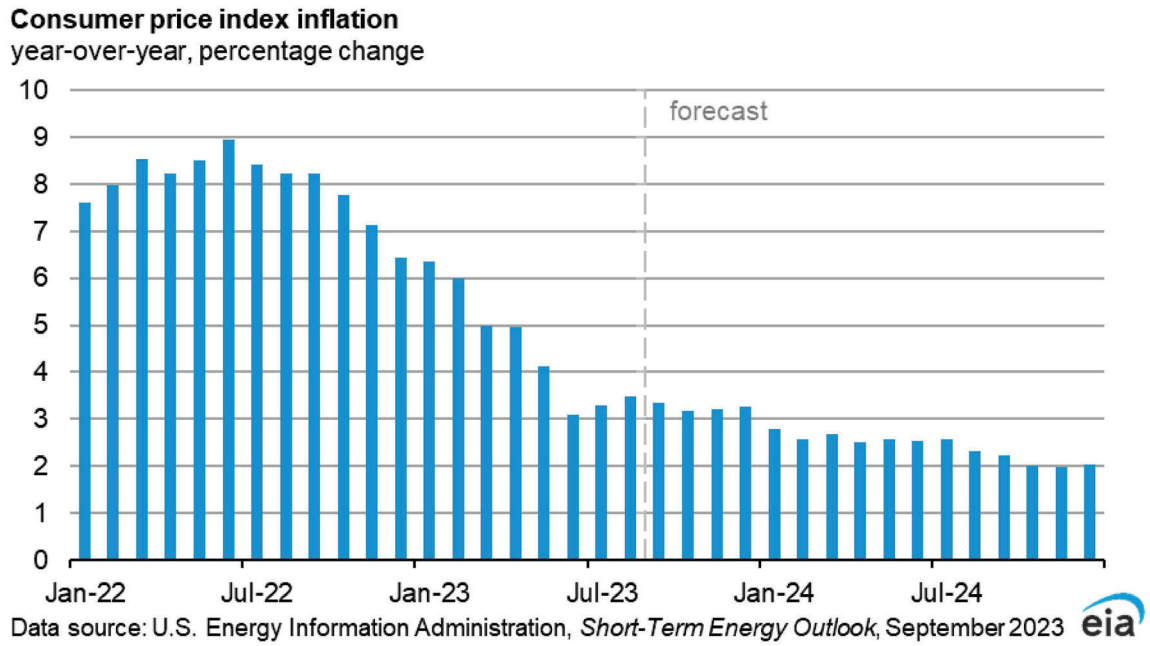
Our U.S. macroeconomic forecasts are based on S&P Global's macroeconomic model. We incorporate STEO energy price forecasts into the model to generate the final macroeconomic assumptions.

Our forecast assumes U.S. real GDP growth will average 2.2% in 2023 and 1.4% in 2024. We increased the GDP forecast after data for second-quarter 2023 (2Q23) GDP growth from the U.S. Bureau of Economic Analysis was stronger than what we had assumed in last month's STEO.

Inflation, measured as the 12-month growth rate of the Consumer Price Index, declined from 6.3% in January to 3.5% in August, but it remains higher than the Federal Reserve's goal of 2.0%. The decline in inflation was not accompanied by the previously expected rise in the unemployment rate. In the January 2023 STEO, our forecast showed the unemployment rate peaking at 5.2% in 4Q23. Our forecast now

assumes the unemployment rate will average 3.5% in 2023 and 3.9% in 2024. Both estimates were revised lower by 0.1 percentage point from the August STEO. Our forecast currently assumes the Federal Reserve will raise the target range for the Federal Funds rate by 0.25 percentage points to 5.50-5.75% before the end of 2024.



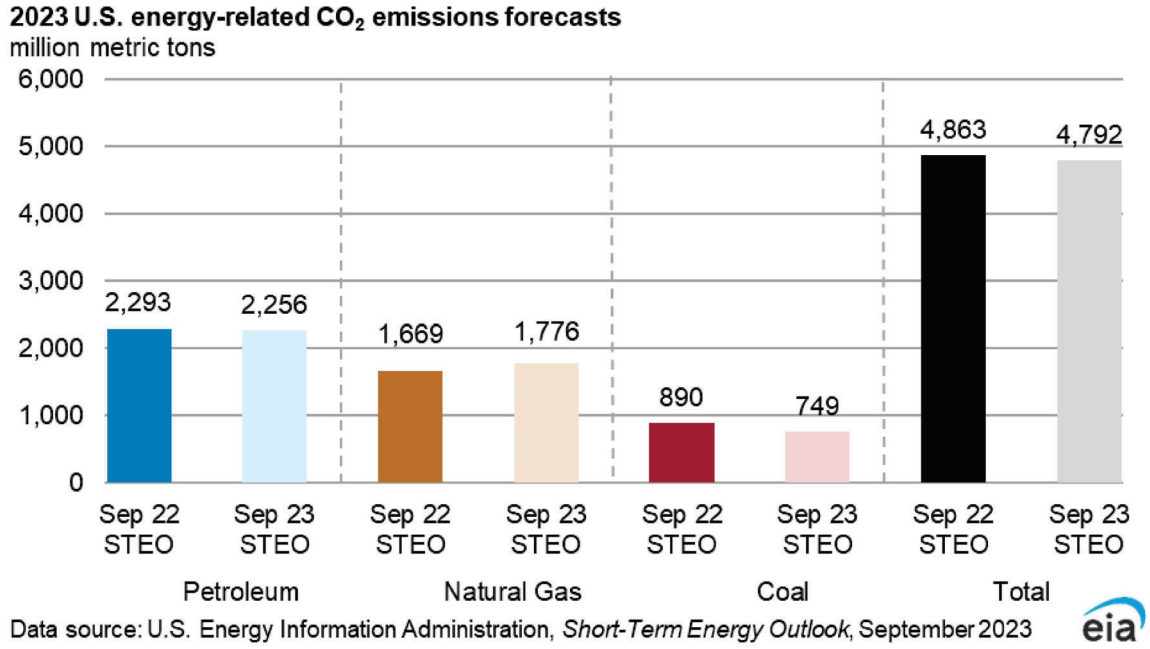




## Emissions

Total energy-related carbon dioxide ($CO_2$) emissions in our forecast decrease by 3% in 2023 compared with 2022. The largest reduction in $CO_2$ emissions comes from reduced use of coal, with emissions

declining by 20% relative to 2022. Emissions from petroleum decrease by 1%, and emissions from natural gas increase by 2%.

Our current forecasts of $CO_2$ emissions in 2023 are 2% lower than what we forecast in the September 2022 STEO. The difference is primarily a result of a downward revision in coal-related emissions, which we forecast to be 16% lower than last year's estimates. The decrease in coal emissions is partially offset by an increase in natural gas emissions, which we forecast to be 6% higher than last year's forecast. The changes in the coal and natural gas forecasts are mostly due to fuel switching from coal to natural gas for electric power generation. Relative prices between natural gas and coal are often the primary consideration in switching between the two fuels. We forecast the cost of generating electric power from coal in 2023 to be 10% higher than what we predicted in September 2022, while the cost of power generation from natural gas in 2023 is nearly half of what we anticipated in the September 2022 STEO. Petroleum-related $CO_2$ emissions are about 2% lower in 2023 compared with the September 2022 STEO. This decrease largely reflects the recent reductions petroleum consumption related to our incorporation of changes to the *Petroleum Supply Monthly*. These changes reduced our estimates of petroleum-related emissions because natural gasoline and unfinished oils we previously assessed were being consumed in the United States were actually being blended into crude oil and either exported and consumed elsewhere or run through U.S. refineries and consumed as other products. Total $CO_2$ emissions in our forecast remain relatively unchanged between 2023 and 2024.




## Weather

We forecast that the United States will average 222 cooling degree days (CDDs) in September, 22 more CDDs than during September 2022 and 18 CDDs more than the ten-year September average. As the summer comes to an end in 3Q23, we expect an average of 1,481 CDDs in all of 2023, about 5% fewer CDDs than in 2022.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - September 2023

| | 2022 | | | | 2023 | | | | 2024 | | | | Year | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | 2022 | 2023 | 2024 |
| **Production (million barrels per day) (a)** | | | | | | | | | | | | | | | |
| OECD | **31.75** | **32.00** | **32.59** | **33.03** | **33.48** | **33.70** | *34.29* | *34.76* | *34.91* | *34.69* | *34.94* | *35.59* | **32.35** | *34.06* | *35.03* |
| U.S. (50 States) | **19.57** | **20.24** | **20.65** | **20.72** | **21.05** | **21.65** | *21.93* | *21.88* | *21.89* | *22.08* | *22.22* | *22.43* | **20.30** | *21.63* | *22.15* |
| Canada | **5.66** | **5.51** | **5.72** | **5.91** | **5.79** | **5.44** | *5.80* | *6.10* | *6.20* | *5.91* | *6.12* | *6.34* | **5.70** | *5.78* | *6.14* |
| Mexico | **1.91** | **1.89** | **1.90** | **1.90** | **2.07** | **2.16** | *2.11* | *2.11* | *2.11* | *2.08* | *2.06* | *2.03* | **1.90** | *2.11* | *2.07* |
| Other OECD | **4.61** | **4.35** | **4.32** | **4.49** | **4.56** | **4.45** | *4.45* | *4.68* | *4.72* | *4.62* | *4.54* | *4.79* | **4.44** | *4.54* | *4.67* |
| Non-OECD | **67.20** | **66.86** | **68.26** | **68.05** | **67.52** | **67.53** | *66.66* | *66.76* | *67.29* | *67.98* | *68.30* | *67.81* | **67.60** | *67.12* | *67.85* |
| OPEC | **33.75** | **33.76** | **34.71** | **34.43** | **33.95** | **33.71** | *32.70* | *32.98* | *33.76* | *33.78* | *33.87* | *33.61* | **34.17** | *33.33* | *33.76* |
| Crude Oil Portion | **28.19** | **28.33** | **29.23** | **28.92** | **28.46** | **28.37** | *27.30* | *27.54* | *28.23* | *28.38* | *28.43* | *28.13* | **28.67** | *27.91* | *28.30* |
| Other Liquids (b) | **5.56** | **5.43** | **5.48** | **5.52** | **5.49** | **5.34** | *5.40* | *5.44* | *5.53* | *5.40* | *5.44* | *5.48* | **5.50** | *5.42* | *5.46* |
| Eurasia | **14.39** | **13.39** | **13.56** | **13.90** | **14.00** | **13.56** | *13.42* | *13.56* | *13.61* | *13.59* | *13.53* | *13.65* | **13.81** | *13.63* | *13.60* |
| China | **5.18** | **5.18** | **5.05** | **5.09** | **5.32** | **5.32** | *5.25* | *5.32* | *5.27* | *5.29* | *5.29* | *5.33* | **5.12** | *5.30* | *5.30* |
| Other Non-OECD | **13.89** | **14.53** | **14.94** | **14.63** | **14.26** | **14.94** | *15.30* | *14.91* | *14.64* | *15.31* | *15.61* | *15.22* | **14.50** | *14.85* | *15.20* |
| Total World Production | **98.96** | **98.87** | **100.85** | **101.07** | **101.00** | **101.23** | *100.95* | *101.52* | *102.20* | *102.67* | *103.24* | *103.39* | **99.94** | *101.18* | *102.88* |
| Non-OPEC Production | **65.21** | **65.11** | **66.14** | **66.64** | **67.05** | **67.52** | *68.26* | *68.54* | *68.44* | *68.89* | *69.37* | *69.78* | **65.78** | *67.85* | *69.12* |
| **Consumption (million barrels per day) (c)** | | | | | | | | | | | | | | | |
| OECD | **45.63** | **45.11** | **46.22** | **45.63** | **45.19** | **45.40** | *46.16* | *46.43* | *45.60* | *45.19* | *46.14* | *46.15* | **45.65** | *45.80* | *45.77* |
| U.S. (50 States) | **20.09** | **20.00** | **20.11** | **19.85** | **19.66** | **20.38** | *20.22* | *20.29* | *20.00* | *20.25* | *20.56* | *20.37* | **20.01** | *20.14* | *20.30* |
| U.S. Territories | **0.11** | **0.12** | **0.13** | **0.12** | **0.12** | **0.12** | *0.12* | *0.12* | *0.11* | *0.11* | *0.11* | *0.11* | **0.12** | *0.12* | *0.11* |
| Canada | **2.24** | **2.21** | **2.38** | **2.30** | **2.24** | **2.25** | *2.35* | *2.33* | *2.28* | *2.23* | *2.33* | *2.31* | **2.28** | *2.29* | *2.29* |
| Europe | **13.19** | **13.43** | **14.04** | **13.35** | **13.06** | **13.37** | *13.97* | *13.73* | *13.21* | *13.36* | *13.77* | *13.53* | **13.50** | *13.54* | *13.47* |
| Japan | **3.70** | **3.03** | **3.19** | **3.56** | **3.72** | **3.02** | *3.12* | *3.45* | *3.57* | *2.96* | *3.06* | *3.39* | **3.37** | *3.32* | *3.24* |
| Other OECD | **6.30** | **6.33** | **6.37** | **6.45** | **6.39** | **6.27** | *6.38* | *6.51* | *6.42* | *6.28* | *6.30* | *6.43* | **6.36** | *6.39* | *6.36* |
| Non-OECD | **52.83** | **53.49** | **53.86** | **53.86** | **54.63** | **55.35** | *55.37* | *55.33* | *56.21* | *56.72* | *56.67* | *56.63* | **53.51** | *55.17* | *56.56* |
| Eurasia | **4.28** | **4.43** | **4.73** | **4.65** | **4.33** | **4.49** | *4.81* | *4.72* | *4.46* | *4.62* | *4.94* | *4.85* | **4.53** | *4.59* | *4.72* |
| Europe | **0.74** | **0.76** | **0.76** | **0.77** | **0.74** | **0.76** | *0.77* | *0.77* | *0.75* | *0.77* | *0.77* | *0.78* | **0.76** | *0.76* | *0.77* |
| China | **15.12** | **15.10** | **15.09** | **15.28** | **15.89** | **16.08** | *15.76* | *15.97* | *16.29* | *16.49* | *16.16* | *16.38* | **15.15** | *15.93* | *16.33* |
| Other Asia | **13.74** | **13.75** | **13.41** | **13.84** | **14.29** | **14.37** | *13.78* | *14.08* | *14.87* | *14.85* | *14.24* | *14.56* | **13.69** | *14.13* | *14.63* |
| Other Non-OECD | **18.95** | **19.45** | **19.86** | **19.32** | **19.37** | **19.66** | *20.26* | *19.79* | *19.83* | *20.00* | *20.55* | *20.07* | **19.39** | *19.77* | *20.11* |
| Total World Consumption | **98.46** | **98.60** | **100.08** | **99.49** | **99.82** | **100.75** | *101.53* | *101.75* | *101.81* | *101.91* | *102.80* | *102.78* | **99.16** | *100.97* | *102.33* |
| **Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)** | | | | | | | | | | | | | | | |
| U.S. (50 States) | **0.80** | **0.51** | **0.45** | **0.41** | **-0.08** | **-0.11** | *0.04* | *0.28* | *-0.09* | *-0.39* | *0.00* | *0.36* | **0.54** | *0.03* | *-0.03* |
| Other OECD | **-0.09** | **-0.29** | **-0.48** | **-0.26** | **0.32** | **-0.47** | *0.17* | *-0.02* | *-0.09* | *-0.12* | *-0.13* | *-0.31* | **-0.28** | *0.00* | *-0.16* |
| Other Stock Draws and Balance | **-1.20** | **-0.49** | **-0.74** | **-1.73** | **-1.42** | **0.09** | *0.37* | *-0.03* | *-0.21* | *-0.26* | *-0.30* | *-0.67* | **-1.04** | *-0.24* | *-0.36* |
| Total Stock Draw | **-0.50** | **-0.26** | **-0.77** | **-1.59** | **-1.18** | **-0.48** | *0.58* | *0.24* | *-0.39* | *-0.76* | *-0.44* | *-0.62* | **-0.78** | *-0.21* | *-0.55* |
| **End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)** | | | | | | | | | | | | | | | |
| U.S. Commercial Inventory | **1,154** | **1,180** | **1,216** | **1,223** | **1,231** | **1,264** | *1,256* | *1,230* | *1,238* | *1,273* | *1,273* | *1,241* | **1,223** | *1,230* | *1,241* |
| OECD Commercial Inventory | **2,604** | **2,657** | **2,736** | **2,767** | **2,746** | **2,822** | *2,798* | *2,774* | *2,790* | *2,836* | *2,848* | *2,844* | **2,767** | *2,774* | *2,844* |

(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, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkiye, United Kingdom, and United States.

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

Notes: EIA completed modeling and analysis for this report on September 7, 2023.

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* (https://www.eia.gov/international/data/world).

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 - September 2023

| | 2022 | | | | 2023 | | | | 2024 | | | | Year | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | 2022 | 2023 | 2024 |
| **Supply (million barrels per day)** | | | | | | | | | | | | | | | |
| Crude Oil Supply | | | | | | | | | | | | | | | |
| Domestic Production (a) | **11.52** | **11.77** | **12.05** | **12.30** | **12.63** | **12.71** | *12.86* | *12.94* | *13.03* | *13.09* | *13.15* | *13.36* | **11.91** | *12.78* | *13.16* |
| Alaska | **0.45** | **0.44** | **0.42** | **0.44** | **0.44** | **0.43** | *0.41* | *0.43* | *0.43* | *0.41* | *0.40* | *0.41* | **0.44** | *0.43* | *0.41* |
| Federal Gulf of Mexico (b) | **1.66** | **1.70** | **1.77** | **1.79** | **1.87** | **1.76** | *1.86* | *1.90* | *1.94* | *1.93* | *1.85* | *1.89* | **1.73** | *1.85* | *1.90* |
| Lower 48 States (excl GOM) | **9.42** | **9.63** | **9.85** | **10.06** | **10.31** | **10.52** | *10.59* | *10.60* | *10.66* | *10.75* | *10.90* | *11.06* | **9.74** | *10.51* | *10.85* |
| Transfers to Crude Oil Supply | **0.41** | **0.37** | **0.42** | **0.48** | **0.39** | **0.51** | *0.49* | *0.38* | *0.36* | *0.38* | *0.38* | *0.36* | **0.42** | *0.44* | *0.37* |
| Crude Oil Net Imports (c) | **3.06** | **2.81** | **2.75** | **2.20** | **2.27** | **2.51** | *2.62* | *2.48* | *2.23* | *2.62* | *2.64* | *1.96* | **2.71** | *2.47* | *2.36* |
| SPR Net Withdrawals | **0.31** | **0.80** | **0.84** | **0.48** | **0.01** | **0.26** | *-0.05* | *0.00* | *0.00* | *0.00* | *0.00* | *0.00* | **0.61** | *0.05* | *0.00* |
| Commercial Inventory Net Withdrawals | **0.08** | **-0.04** | **-0.12** | **-0.01** | **-0.39** | **0.12** | *0.40* | *-0.04* | *-0.35* | *0.09* | *0.17* | *-0.11* | **-0.02** | *0.02* | *-0.05* |
| Crude Oil Adjustment (d) | **0.20** | **0.45** | **0.38** | **0.41** | **0.34** | **0.03** | *0.12* | *0.32* | *0.36* | *0.35* | *0.34* | *0.37* | **0.36** | *0.20* | *0.36* |
| Total Crude Oil Input to Refineries | **15.58** | **16.15** | **16.31** | **15.86** | **15.25** | **16.15** | *16.31* | *15.70* | *15.28* | *16.15* | *16.30* | *15.58* | **15.98** | *15.85* | *15.83* |
| Other Supply | | | | | | | | | | | | | | | |
| Refinery Processing Gain | **0.97** | **1.08** | **1.06** | **1.01** | **0.97** | **1.01** | *1.01* | *1.01* | *0.96* | *1.00* | *1.01* | *0.99* | **1.03** | *1.00* | *0.99* |
| Natural Gas Plant Liquids Production | **5.66** | **5.96** | **6.13** | **5.97** | **6.01** | **6.42** | *6.51* | *6.43* | *6.41* | *6.47* | *6.53* | *6.57* | **5.93** | *6.34* | *6.49* |
| Renewables and Oxygenate Production (e) | **1.20** | **1.20** | **1.18** | **1.23** | **1.24** | **1.29** | *1.33* | *1.29* | *1.28* | *1.30* | *1.32* | *1.29* | **1.20** | *1.29* | *1.29* |
| Fuel Ethanol Production | **1.02** | **1.01** | **0.97** | **1.01** | **1.00** | **1.00** | *1.04* | *1.00* | *0.98* | *0.98* | *0.99* | *0.98* | **1.00** | *1.01* | *0.98* |
| Petroleum Products Adjustment (f) | **0.22** | **0.23** | **0.22** | **0.22** | **0.20** | **0.22** | *0.22* | *0.22* | *0.21* | *0.22* | *0.22* | *0.22* | **0.22** | *0.21* | *0.22* |
| Petroleum Products Transfers to Crude Oil Supply | **-0.41** | **-0.37** | **-0.42** | **-0.48** | **-0.39** | **-0.51** | *-0.49* | *-0.38* | *-0.36* | *-0.38* | *-0.38* | *-0.36* | **-0.42** | *-0.44* | *-0.37* |
| Product Net Imports (c) | **-3.54** | **-4.02** | **-4.12** | **-3.90** | **-3.91** | **-3.71** | *-4.36* | *-4.29* | *-4.03* | *-4.04* | *-4.25* | *-4.38* | **-3.90** | *-4.07* | *-4.18* |
| Hydrocarbon Gas Liquids | **-2.07** | **-2.36** | **-2.25** | **-2.26** | **-2.47** | **-2.39** | *-2.48* | *-2.51* | *-2.55* | *-2.62* | *-2.58* | *-2.62* | **-2.24** | *-2.46* | *-2.59* |
| Unfinished Oils | **0.17** | **0.29** | **0.29** | **0.30** | **0.28** | **0.27** | *0.32* | *0.31* | *0.24* | *0.30* | *0.32* | *0.21* | **0.26** | *0.29* | *0.27* |
| Other HC/Oxygenates | **-0.07** | **-0.10** | **-0.06** | **-0.02** | **-0.05** | **-0.07** | *-0.06* | *-0.06* | *-0.06* | *-0.05* | *-0.04* | *-0.04* | **-0.06** | *-0.06* | *-0.05* |
| Motor Gasoline Blend Comp. | **0.38** | **0.60** | **0.48** | **0.40** | **0.45** | **0.67** | *0.56* | *0.39* | *0.49* | *0.66* | *0.50* | *0.33* | **0.46** | *0.52* | *0.49* |
| Finished Motor Gasoline | **-0.69** | **-0.75** | **-0.79** | **-0.84** | **-0.75** | **-0.58** | *-0.77* | *-0.74* | *-0.82* | *-0.72* | *-0.75* | *-0.74* | **-0.77** | *-0.71* | *-0.76* |
| Jet Fuel | **-0.03** | **-0.06** | **-0.10** | **-0.03** | **-0.05** | **0.01** | *-0.07* | *0.05* | *0.13* | *0.22* | *0.21* | *0.19* | **-0.06** | *-0.02* | *0.19* |
| Distillate Fuel Oil | **-0.74** | **-1.08** | **-1.24** | **-1.00** | **-0.76** | **-0.97** | *-1.11* | *-1.05* | *-0.83* | *-1.12* | *-1.23* | *-1.03* | **-1.02** | *-0.97* | *-1.05* |
| Residual Fuel Oil | **0.09** | **0.08** | **0.10** | **0.09** | **0.01** | **-0.04** | *-0.04* | *0.08* | *0.04* | *0.05* | *0.05* | *0.12* | **0.09** | *0.00* | *0.07* |
| Other Oils (g) | **-0.58** | **-0.64** | **-0.53** | **-0.54** | **-0.58** | **-0.61** | *-0.70* | *-0.76* | *-0.66* | *-0.75* | *-0.74* | *-0.79* | **-0.57** | *-0.66* | *-0.74* |
| Product Inventory Net Withdrawals | **0.42** | **-0.25** | **-0.26** | **-0.06** | **0.30** | **-0.49** | *-0.31* | *0.32* | *0.26* | *-0.48* | *-0.17* | *0.47* | **-0.04** | *-0.05* | *0.02* |
| Total Supply | **20.09** | **20.00** | **20.11** | **19.85** | **19.67** | **20.38** | *20.22* | *20.29* | *20.00* | *20.25* | *20.56* | *20.37* | **20.01** | *20.14* | *20.30* |
| **Consumption (million barrels per day)** | | | | | | | | | | | | | | | |
| Hydrocarbon Gas Liquids | **3.77** | **3.18** | **3.17** | **3.32** | **3.40** | **3.36** | *3.36* | *3.68* | *3.82* | *3.34* | *3.39* | *3.73* | **3.36** | *3.45* | *3.57* |
| Other HC/Oxygenates | **0.14** | **0.17** | **0.17** | **0.19** | **0.22** | **0.28** | *0.24* | *0.24* | *0.24* | *0.26* | *0.26* | *0.26* | **0.17** | *0.24* | *0.25* |
| Unfinished Oils | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | *0.00* | *0.00* | *0.00* | *0.00* | *0.00* | *0.00* | **0.00** | *0.00* | *0.00* |
| Motor Gasoline | **8.57** | **9.00** | **8.93** | **8.74** | **8.67** | **9.13** | *8.95* | *8.75* | *8.44* | *8.89* | *8.98* | *8.62* | **8.81** | *8.87* | *8.73* |
| Fuel Ethanol blended into Motor Gasoline | **0.88** | **0.93** | **0.92** | **0.93** | **0.90** | **0.94** | *0.95* | *0.91* | *0.87* | *0.92* | *0.94* | *0.90* | **0.91** | *0.93* | *0.91* |
| Jet Fuel | **1.45** | **1.61** | **1.60** | **1.58** | **1.55** | **1.67** | *1.69* | *1.64* | *1.64* | *1.78* | *1.83* | *1.78* | **1.56** | *1.64* | *1.76* |
| Distillate Fuel Oil | **4.22** | **3.97** | **3.91** | **4.00** | **4.01** | **3.93** | *3.81* | *3.97* | *4.06* | *3.95* | *3.89* | *4.02* | **4.03** | *3.93* | *3.98* |
| Residual Fuel Oil | **0.33** | **0.30** | **0.38** | **0.30** | **0.29** | **0.22** | *0.28* | *0.35* | *0.26* | *0.27* | *0.32* | *0.33* | **0.33** | *0.28* | *0.29* |
| Other Oils (g) | **1.61** | **1.78** | **1.94** | **1.70** | **1.53** | **1.79** | *1.90* | *1.66* | *1.55* | *1.77* | *1.90* | *1.63* | **1.76** | *1.72* | *1.71* |
| Total Consumption | **20.09** | **20.00** | **20.11** | **19.85** | **19.66** | **20.38** | *20.22* | *20.29* | *20.00* | *20.25* | *20.56* | *20.37* | **20.01** | *20.14* | *20.30* |
| **Total Petroleum and Other Liquids Net Imports** | **-0.48** | **-1.21** | **-1.37** | **-1.69** | **-1.64** | **-1.20** | *-1.74* | *-1.81* | *-1.80* | *-1.42* | *-1.61* | *-2.42* | **-1.19** | *-1.60* | *-1.81* |
| **End-of-period Inventories (million barrels)** | | | | | | | | | | | | | | | |
| Commercial Inventory | | | | | | | | | | | | | | | |
| Crude Oil (excluding SPR) | **414.2** | **417.8** | **429.0** | **430.1** | **465.4** | **454.7** | *418.1* | *421.4* | *453.1* | *444.9* | *429.4* | *439.5* | **430.1** | *421.4* | *439.5* |
| Hydrocarbon Gas Liquids | **142.1** | **186.7** | **243.7** | **211.1** | **174.3** | **225.4** | *271.0* | *227.6* | *188.4* | *235.0* | *273.5* | *228.3* | **211.1** | *227.6* | *228.3* |
| Unfinished Oils | **88.1** | **88.9** | **82.3** | **86.4** | **88.6** | **87.0** | *85.6* | *80.4* | *90.8* | *87.9* | *86.4* | *78.9* | **86.4** | *80.4* | *78.9* |
| Other HC/Oxygenates | **34.4** | **29.7** | **27.3** | **31.6** | **34.3** | **30.1** | *30.4* | *30.6* | *32.7* | *31.5* | *31.2* | *31.4* | **31.6** | *30.6* | *31.4* |
| Total Motor Gasoline | **238.5** | **221.0** | **209.5** | **224.4** | **225.3** | **223.2** | *216.7* | *233.6* | *234.8* | *232.0* | *219.7* | *231.1* | **224.4** | *233.6* | *231.1* |
| Finished Motor Gasoline | **17.3** | **17.1** | **17.6** | **17.2** | **14.7** | **17.6** | *17.0* | *17.7* | *15.4* | *16.3* | *18.0* | *20.3* | **17.2** | *17.7* | *20.3* |
| Motor Gasoline Blend Comp. | **221.2** | **203.9** | **191.9** | **207.2** | **210.6** | **205.6** | *199.7* | *215.9* | *219.4* | *215.7* | *201.8* | *210.8* | **207.2** | *215.9* | *210.8* |
| Jet Fuel | **35.6** | **39.4** | **36.5** | **35.0** | **37.7** | **42.7** | *41.6* | *41.0* | *39.5* | *41.2* | *42.4* | *39.4* | **35.0** | *41.0* | *39.4* |
| Distillate Fuel Oil | **114.7** | **111.3** | **110.5** | **118.9** | **112.3** | **112.6** | *117.0* | *118.7* | *111.0* | *115.5* | *116.5* | *116.9* | **118.9** | *118.7* | *116.9* |
| Residual Fuel Oil | **28.1** | **29.3** | **27.4** | **30.7** | **29.6** | **30.4** | *25.5* | *25.4* | *27.1* | *26.7* | *25.1* | *24.6* | **30.7** | *25.4* | *24.6* |
| Other Oils (g) | **58.6** | **56.3** | **49.3** | **54.3** | **63.3** | **58.3** | *50.5* | *51.8* | *60.8* | *58.6* | *49.3* | *50.7* | **54.3** | *51.8* | *50.7* |
| Total Commercial Inventory | **1154.2** | **1180.4** | **1215.6** | **1222.6** | **1230.8** | **1264.4** | *1256.3* | *1230.4* | *1238.2* | *1273.3* | *1273.6* | *1240.9* | **1222.6** | *1230.4* | *1240.9* |
| Crude Oil in SPR | **566.1** | **493.3** | **416.4** | **372.0** | **371.2** | **347.2** | *352.0* | *352.0* | *352.0* | *352.0* | *352.0* | *352.0* | **372.0** | *352.0* | *352.0* |

(a) Includes lease condensate.

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

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

(d) Crude oil adjustment equals the sum of disposition items (e.g. refinery inputs) minus the sum of supply items (e.g. production).

(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 blending 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 September 7, 2023.

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 - September 2023

| | 2022 | | | | 2023 | | | | 2024 | | | | Year | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | 2022 | 2023 | 2024 |
| **Supply (billion cubic feet per day)** | | | | | | | | | | | | | | | |
| Total Marketed Production | **103.27** | **106.18** | **108.27** | **108.90** | **110.87** | **112.14** | *112.06* | *112.52* | *113.75* | *114.20* | *114.45* | *115.53* | **106.67** | *111.90* | *114.49* |
| Alaska | **1.06** | **1.00** | **0.96** | **1.07** | **1.08** | **1.01** | *0.89* | *0.99* | *1.00* | *0.92* | *0.84* | *0.98* | **1.02** | *0.99* | *0.94* |
| Federal GOM (a) | **2.05** | **2.11** | **2.19** | **2.12** | **2.14** | **1.89** | *1.99* | *2.12* | *2.10* | *2.03* | *1.88* | *1.87* | **2.12** | *2.04* | *1.97* |
| Lower 48 States (excl GOM) | **100.16** | **103.07** | **105.12** | **105.71** | **107.65** | **109.24** | *109.19* | *109.41* | *110.65* | *111.25* | *111.72* | *112.69* | **103.53** | *108.88* | *111.58* |
| Total Dry Gas Production | **95.09** | **97.59** | **99.46** | **100.29** | **102.13** | **102.80** | *102.71* | *103.12* | *104.25* | *104.66* | *104.89* | *105.89* | **98.13** | *102.69* | *104.93* |
| LNG Gross Imports | **0.15** | **0.01** | **0.07** | **0.05** | **0.09** | **0.02** | *0.04* | *0.06* | *0.10* | *0.04* | *0.04* | *0.06* | **0.07** | *0.05* | *0.06* |
| LNG Gross Exports | **11.50** | **10.80** | **9.74** | **10.35** | **11.45** | **11.76** | *11.30* | *11.90* | *12.30* | *12.61* | *13.09* | *14.61* | **10.59** | *11.60* | *13.15* |
| Pipeline Gross Imports | **8.89** | **7.73** | **7.84** | **8.41** | **8.45** | **7.32** | *7.34* | *7.49* | *8.18* | *6.81* | *7.04* | *7.44* | **8.22** | *7.64* | *7.37* |
| Pipeline Gross Exports | **8.46** | **8.52** | **8.13** | **8.19** | **8.91** | **8.75** | *9.16* | *9.31* | *9.52* | *8.89* | *9.21* | *9.64* | **8.32** | *9.03* | *9.32* |
| Supplemental Gaseous Fuels | **0.21** | **0.17** | **0.18** | **0.16** | **0.19** | **0.15** | *0.17* | *0.17* | *0.18* | *0.18* | *0.18* | *0.18* | **0.18** | *0.17* | *0.18* |
| Net Inventory Withdrawals | **20.14** | **-10.25** | **-8.94** | **2.35** | **11.95** | **-11.70** | *-6.78* | *3.26* | *13.93* | *-12.34* | *-6.60* | *3.01* | **0.75** | *-0.86* | *-0.51* |
| Total Supply | **104.52** | **75.94** | **80.72** | **92.73** | **102.44** | **78.08** | *83.02* | *92.90* | *104.81* | *77.85* | *83.25* | *92.33* | **88.43** | *89.07* | *89.55* |
| Balancing Item (b) | **0.33** | **0.21** | **0.07** | **-0.09** | **0.64** | **-0.06** | *1.58* | *0.45* | *-1.61* | *-1.26* | *0.28* | *-0.24* | **0.13** | *0.65* | *-0.70* |
| Total Primary Supply | **104.85** | **76.16** | **80.80** | **92.64** | **103.08** | **78.02** | *84.60* | *93.35* | *103.20* | *76.59* | *83.52* | *92.08* | **88.56** | *89.72* | *88.84* |
| **Consumption (billion cubic feet per day)** | | | | | | | | | | | | | | | |
| Residential | **26.09** | **7.86** | **3.57** | **17.37** | **23.48** | **7.27** | *4.03* | *16.61* | *24.82* | *7.85* | *4.31* | *16.63* | **13.67** | *12.81* | *13.39* |
| Commercial | **15.61** | **6.67** | **4.74** | **11.69** | **14.53** | **6.41** | *5.14* | *11.73* | *14.83* | *6.88* | *5.31* | *11.81* | **9.66** | *9.43* | *9.70* |
| Industrial | **25.46** | **22.25** | **21.47** | **23.51** | **24.67** | **22.24** | *21.46* | *23.47* | *24.30* | *21.28* | *21.14* | *23.44* | **23.16** | *22.95* | *22.54* |
| Electric Power (c) | **28.39** | **30.99** | **42.36** | **30.94** | **30.78** | **33.34** | *44.94* | *32.14* | *29.41* | *31.75* | *43.64* | *30.69* | **33.20** | *35.33* | *33.89* |
| Lease and Plant Fuel | **5.26** | **5.41** | **5.51** | **5.55** | **5.65** | **5.71** | *5.71* | *5.73* | *5.79* | *5.82* | *5.83* | *5.88* | **5.43** | *5.70* | *5.83* |
| Pipeline and Distribution Use | **3.86** | **2.80** | **2.98** | **3.41** | **3.80** | **2.87** | *3.13* | *3.47* | *3.85* | *2.82* | *3.09* | *3.43* | **3.26** | *3.32* | *3.30* |
| Vehicle Use | **0.17** | **0.17** | **0.17** | **0.17** | **0.18** | **0.18** | *0.18* | *0.18* | *0.20* | *0.20* | *0.20* | *0.20* | **0.17** | *0.18* | *0.20* |
| Total Consumption | **104.85** | **76.16** | **80.80** | **92.64** | **103.08** | **78.02** | *84.60* | *93.35* | *103.20* | *76.59* | *83.52* | *92.08* | **88.56** | *89.72* | *88.84* |
| **End-of-period Inventories (billion cubic feet)** | | | | | | | | | | | | | | | |
| Working Gas Inventory | **1,401** | **2,325** | **3,146** | **2,927** | **1,850** | **2,900** | *3,524* | *3,224* | *1,957* | *3,080* | *3,687* | *3,410* | **2,927** | *3,224* | *3,410* |
| East Region (d) | **242** | **482** | **759** | **698** | **334** | **646** | *860* | *750* | *364* | *673* | *864* | *779* | **698** | *750* | *779* |
| Midwest Region (d) | **296** | **557** | **917** | **831** | **417** | **701** | *1,004* | *884* | *430* | *729* | *1,014* | *919* | **831** | *884* | *919* |
| South Central Region (d) | **587** | **885** | **1,006** | **1,042** | **919** | **1,136** | *1,119* | *1,113* | *831* | *1,196* | *1,232* | *1,194* | **1,042** | *1,113* | *1,194* |
| Mountain Region (d) | **90** | **137** | **184** | **158** | **79** | **171** | *235* | *196* | *127* | *166* | *226* | *196* | **158** | *196* | *196* |
| Pacific Region (d) | **165** | **240** | **247** | **169** | **74** | **216** | *274* | *250* | *180* | *287* | *317* | *293* | **169** | *250* | *293* |
| Alaska | **21** | **25** | **32** | **30** | **27** | **30** | *34* | *31* | *25* | *28* | *33* | *29* | **30** | *31* | *29* |

(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 September 7, 2023.

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.

# Summary

## Overview of Activity for July 2023

- **Top five countries of destination, representing 53.4%of total U.S. LNG exports in July 2023**
  - Netherlands (53.3 Bcf), Japan (40.2 Bcf), China (39.0 Bcf), Spain (34.1 Bcf), and France (20.6 Bcf)
- **350.3 Bcf of exports in July 2023**
  - 6.9% increase from June 2023
  - 16.7% more than July 2022
- **115 cargos shipped in July 2023**
  - Sabine Pass (35), Cameron (28), Freeport (22), Corpus Christi (20), Cove Point (6), and Elba (4)
  - 108 cargos in June 2023
  - 100 cargos in July 2022

### 1a. Table of Exports of Domestically-Produced LNG Delivered by Region (Cumulative from February 2016 through July 2023)

| Region | Number of Countries Receiving Per Region | Volume Exported (Bcf) | Percentage Receipts of Total Volume Exported (%) | Number of Cargos* |
|---|---|---|---|---|
| East Asia and Pacific | 8 | 4,959.1 | 30.9% | 1475 |
| Europe and Central Asia | 15 | 7,437.8 | 46.4% | 2324 |
| Latin America and the Caribbean** | 13 | 2,322.8 | 14.5% | 849 |
| Middle East and North Africa | 5 | 405.1 | 2.5% | 118 |
| South Asia | 3 | 922.0 | 5.7% | 273 |
| Sub-Saharan Africa | 0 | 0.0 | 0.0% | 0 |
| **Total LNG Exports** | **44** | **16,046.8** | **100.0%** | **5,039** |

*Split cargos counted as both individual cargos and countries

**Number of cargos does not include the shipments by ISO container

# 1b. Shipments of Domestically-Produced LNG Delivered – by Country
## (Cumulative from February 2016 through July 2023)

| | Country of Destination | Region | Number of Cargos | Volume (Bcf of Natural Gas) | Percentage of Total U.S LNG Exports (%) |
|---|---|---|---|---|---|
| 1. | South Korea* | East Asia and Pacific | 535 | 1,849.0 | 11.5% |
| 2. | Japan* | East Asia and Pacific | 413 | 1,404.3 | 8.8% |
| 3. | United Kingdom* | Europe and Central Asia | 390 | 1,295.6 | 8.1% |
| 4. | France* | Europe and Central Asia | 384 | 1,244.9 | 7.8% |
| 5. | Spain* | Europe and Central Asia | 385 | 1,207.4 | 7.5% |
| 6. | Netherlands* | Europe and Central Asia | 323 | 1,095.5 | 6.8% |
| 7. | China* | East Asia and Pacific | 320 | 1,080.5 | 6.7% |
| 8. | India* | South Asia | 211 | 718.0 | 4.5% |
| 9. | Turkiye* | Europe and Central Asia | 210 | 670.8 | 4.2% |
| 10. | Brazil* | Latin America and the Caribbean | 226 | 626.1 | 3.9% |
| 11. | Mexico* | Latin America and the Caribbean | 167 | 555.1 | 3.5% |
| 12. | Chile* | Latin America and the Caribbean | 142 | 448.5 | 2.8% |
| 13. | Italy* | Europe and Central Asia | 129 | 416.5 | 2.6% |
| 14. | Taiwan* | East Asia and Pacific | 121 | 383.9 | 2.4% |
| 15. | Poland* | Europe and Central Asia | 104 | 344.2 | 2.1% |
| 16. | Argentina* | Latin America and the Caribbean | 142 | 342.1 | 2.1% |
| 17. | Portugal* | Europe and Central Asia | 97 | 308.2 | 1.9% |
| 18. | Greece* | Europe and Central Asia | 87 | 200.0 | 1.2% |
| 19. | Dominican Republic* | Latin America and the Caribbean | 84 | 194.2 | 1.2% |
| 20. | Kuwait | Middle East and North Africa | 52 | 181.6 | 1.1% |
| 21. | Belgium* | Europe and Central Asia | 55 | 175.9 | 1.1% |
| 22. | Lithuania | Europe and Central Asia | 57 | 175.1 | 1.1% |
| 23. | Croatia | Europe and Central Asia | 48 | 145.5 | 0.9% |
| 24. | Pakistan* | South Asia | 40 | 128.9 | 0.8% |
| 25. | Jordan* | Middle East and North Africa | 37 | 127.5 | 0.8% |
| 26. | Germany | Europe and Central Asia | 37 | 118.4 | 0.7% |
| 27. | Singapore* | East Asia and Pacific | 36 | 117.4 | 0.7% |
| 28. | Thailand* | East Asia and Pacific | 31 | 108.7 | 0.7% |
| 29. | Bangladesh* | South Asia | 22 | 75.0 | 0.5% |
| 30. | Panama* | Latin America and the Caribbean | 34 | 64.5 | 0.4% |
| 31. | Jamaica* | Latin America and the Caribbean | 32 | 59.6 | 0.4% |
| 32. | United Arab Emirates | Middle East and North Africa | 15 | 51.1 | 0.3% |
| 33. | Israel* | Middle East and North Africa | 9 | 28.0 | 0.2% |
| 34. | Colombia* | Latin America and the Caribbean | 22 | 27.0 | 0.2% |
| 35. | Malta* | Europe and Central Asia | 11 | 20.1 | 0.1% |
| 36. | Finland | Europe and Central Asia | 7 | 19.4 | 0.1% |
| 37. | Egypt* | Middle East and North Africa | 5 | 16.9 | 0.1% |
| 38. | Indonesia* | East Asia and Pacific | 18 | 11.7 | 0.1% |
| 39. | Malaysia | East Asia and Pacific | 1 | 3.7 | 0.0% |
| | **Total Exports by Vessel** | | **5,039** | **16,041.1** | |
| | Jamaica | Latin America and the Caribbean | 179 | 2.0 | 0.0% |
| 40 | Bahamas | Latin America and the Caribbean | 764 | 1.8 | 0.0% |
| 41 | Barbados | Latin America and the Caribbean | 305 | 1.3 | 0.0% |
| 42 | Haiti | Latin America and the Caribbean | 150 | 0.5 | 0.0% |
| 43 | Antigua and Barbuda | Latin America and the Caribbean | 55 | 0.0 | 0.0% |
| 44 | Nicaragua | Latin America and the Caribbean | 1 | 0.0 | 0.0% |
| | Germany | Europe and Central Asia | 1 | 0.0 | 0.0% |
| | **Total Exports by ISO** | | **1455** | **5.6** | |
| | **Total Exports by Vessel and ISO** | | **6,494** | **16,046.8** | |

**Note:**

Volume and Number of Cargos are the cumulative totals of each individual Country of Destination by Region starting from February 2016.

Jamaica has received U.S. LNG exports by both vessel and ISO container. The volumes are totaled separately

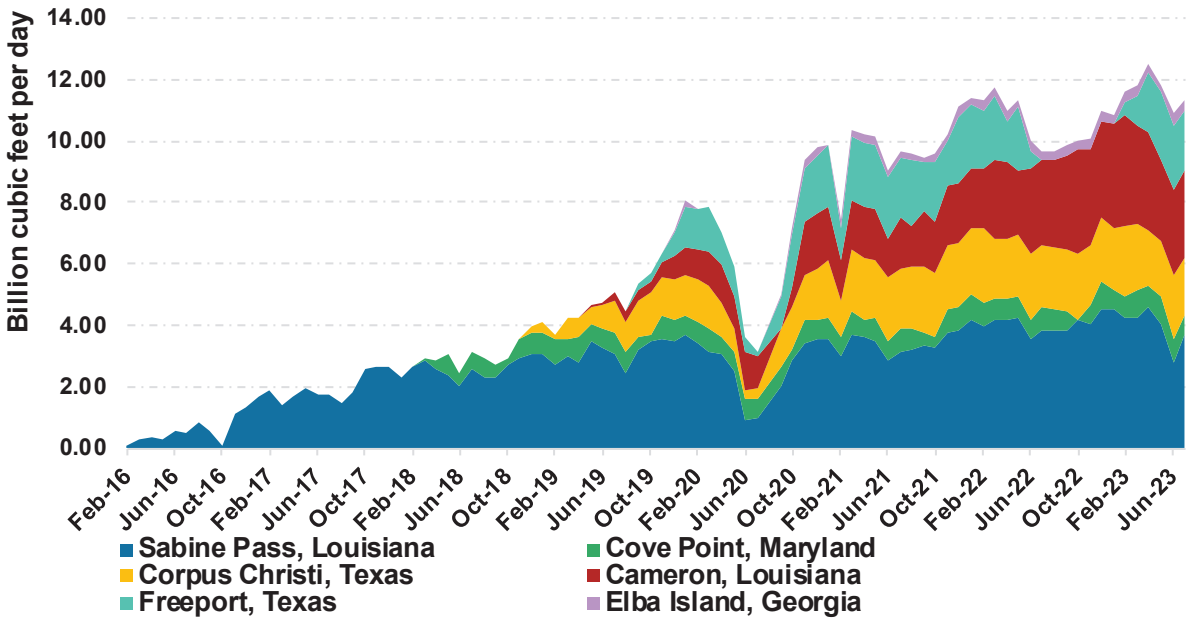
* Split cargos counted as both individual cargos and countries.

Vessel = LNG Exports by Vessel and ISO container = LNG Exports by Vessel in ISO Containers.

Does not include re-exports of previously-imported LNG. See table 2c for re-exports data.

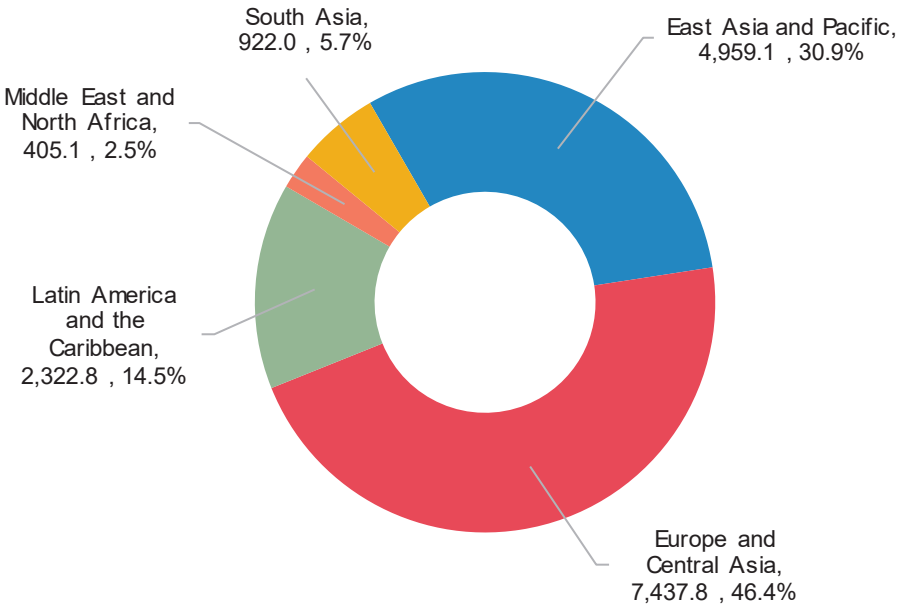
Totals may not equal sum of components because of independent rounding.

## 1c. Domestically-Produced LNG Exported by Point of Exit
## (February 2016 through July 2023)




The Cameron, LA point of exit includes exports from Cameron LNG and Venture Global Calcasieu Pass.

## 1d. Domestically-Produced LNG Exported by Region
## (Cumulative from February 2016 through July 2023)
## (Bcf, %)



Time stamped as of noon MT on Sept 16, 2023

https://www.facebook.com/p/Offshore-Alliance-100063786371409/

# Offshore Alliance

10h ·

Chevron's engagement of Altrad-AGC employees under sham Enterprise Agreements working on Chevron facilities, explains plenty about how Chevron have treated their contractor workforce over the past decade.

And the Ventia EA which is being used on the Chevron facilities isn't much better. The following article from the Australian Newspaper summarises the shams and scams on the Chevon facilities.

Senior Partner of Mapien (Employer Advisory Group) Mark Hudston is being scrutinized very, very heavily by a number of parties for his role in advising Workforce Logistics (purchased by AGC-Altrad) on key issues relating to their sham Agreement.

It's repugnant stuff and explains why contractors are having the guts ripped out of their pay and condtions on Chevron's Gorgon and Wheatstone facilities.

And what's Chevron saying about all of this? Crickets....

THE AUSTRALIAN: EWIN HANNAN
---
Fair Work Commission president Adam Hatcher has ordered an inquiry into the approval of seven enterprise agreements after a landmark decision found a Western Australian company engaged in an “ingenuine and fake” process to get an agreement approved.

Australian Workers Union national secretary Paul Farrow urged the federal government to make further industrial relations law changes after the exposure of the sham agreement that was later used to win work on a Chevron oil and gas facility.

Slamming the conduct of those involved in the now quashed Workforce Logistics enterprise agreement, Justice Hatcher said it appeared a number of people involved in the “sham exercise” might have been involved in the making of other agreements ¬approved by the commission in recent years.

He said the full bench would refer seven agreements to the commission general manager for further inquiry to ascertain whether there had been any “wider-scale abuse of the enterprise agreement-making facility in the Fair Work Act”.

In its decision, the full bench found Mr Blake Read, the director and sole shareholder of Workforce Logistics, applied for approval of a four-year agreement that was to cover six workers.

One employee was Mr Read’s brother, two employees were his existing business partners and two were relatives of one of the business partners.

They were to be employed for only four to six weeks and the purpose was to establish a corporate shell with an enterprise agreement to sell off.

Two months after the agreement was approved by the commission, Workforce Logistics was sold to AusGroup Companies and then to Altrad Australia.

The agreement, which set terms and conditions of employment that are far below industry standards, was used to apply to maintenance employees working on Chevron oil and gas facilities.

The full bench said the contracts with the workers were a “sham” and the approval of the agreement by the six employees was entirely lacking in authenticity and moral authority.

Further inquiry was warranted as it appears that a number of the persons involved in the sham exercise … have also been involved in the making of a number of other enterprise agreements in Western Australia which have been approved by the commission in recent years.

Mr Farrow has written to Workplace Relations Minister Tony Burke urging him to introduce new laws to deal with the issue, including by automatically terminating all low-voter cohort enterprise agreements. Mr Burke declined to comment.

Mr Farrow welcomed the upholding of the AWU appeal, but said “it’s an embarrassment to Australia that such blatantly cynical scams can get off the ground at all in our system”.

“You can’t have cosy little cohorts running ahead, pretending to be relevant workers, and establishing low pay agreements at greenfield sites so they can be used on real workers when they arrive and decimate industry standard terms and conditions of employment that workers and their unions have fought hard for,” he said.

“If we want Australians to get real wage increases to keep pace with the cost of living, we can’t allow industrial con artists to misuse and abuse our industrial relations system to set rates of pay and conditions at the floor and use these sham agreements to win contracts with companies such as Chevron, undercutting the current terms and conditions that apply.”


# Offshore Alliance

17h ·

Chevron’s 3 West Coast facilities are descending into chaos as Offshore Alliance members lock all 3 Chevron facilities down for the next 24-hours.

It is pretty clear that Chevron’s so-called contingency workforce aren’t up to it and the cost of Chevron not sorting out our EBA’s has already exceeded the cost of Chevron agreeing to members’ bargaining claims. By a long shot.

And we’re only just getting warmed up in our PIA.

Wheatstone Downstream has lost 25% of its production since midday Thursday due to the incompetence of Chevron’s BCP workforce and there is every likelihood that production on the Gorgon facility will be significantly impacted over the weekend.

Shipping was delayed by 4-hours at Wheatstone yesterday due to BCP crew not having a clue about what they are doing and Gorgon production has slowed.

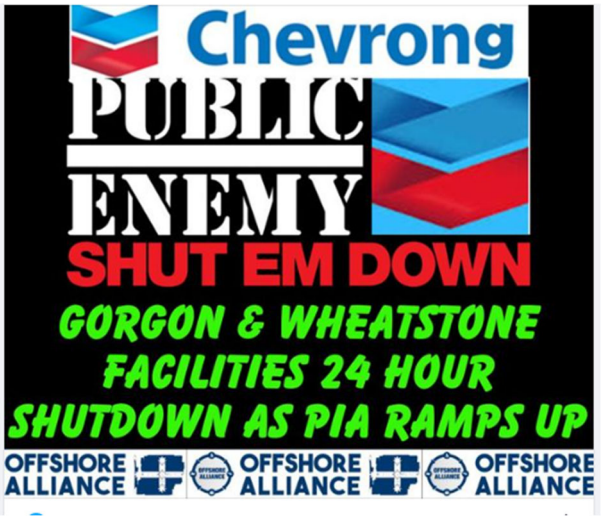
It’s estimated that the Chevron are $40 million in the hole for the first week of PIA and the bookies have them losing another $100 million + by week 2.

Not to mention Chevron using non-competent personnel due to bodgie competencies being rushed through by Chevron.

Chevron are now using non- competent Panel Operators to fill the gaps in their manning which are now turning into chasms.

Chevron will be held to account if they maim or kill their non-competent workforce in their war on workers at the Gorgon and Wheatstone facilities.

The Chevron bosses need to get it through their heads that “kill a worker, go to jail” is not a slogan – it’s real.




## Offshore Alliance

2d ·

Agreeing to benchmark industry standard pay and conditions is a drop in the bucket for Chevron, compared with what they are losing in lost production and profit. Chevron have learned nothing from the Prelude dispute which makes Chevron much, much dumber than Shell.

# Offshore Alliance

2d ·

The 1411 Turbine has tripped on the Wheatstone Downstream Facility and one of the trains is now down to 50% capacity. All of this kicked in whilst the plant was being manned by Chevron's inexperienced and non-competent BCP workforce.

The Chevron ideologues and industrial zealots who thought they could get away without Offshore Alliance labour on their West Coast facilities are now finding out that their fantasy dreams are turning into an industrial nightmare.

We're only just getting started with our Protected Industrial Action and the Chevron beancounters are starting to shit bricks.

By the time we are finished with Chevron, the cost of not sorting out an industry standard EBA is going to make fools of the HR bosses running the Chevron circus.


# Offshore Alliance

2d ·

The Offshore Alliance lawyers have put Chevron on notice regarding alleged coercive conduct by Chevron bosses on the Gorgon and Wheatstone facilities.

Amongst other things, the Union's lawyers have given Chevron until 12:00 tomorrow to give written confirmation to the Union that they will stop making unlawful threats to Offshore Alliance members regarding pay deductions during periods of Protected Industrial Action.

The Union believes that Chevron have exerted improper pressure - coercion - of members who are exercising their lawful right to take Protected Industrial Action.

PIA has escalated today on the Chevron facilities and will continue to escalate over the coming days and weeks.
OA members are committed to ensuring domgas is not impacted through the Protected Industrial Action on the Chevron facilities.
Chevron's LNG exports however is a very different story....
IF YOU DON'T FIGHT, YOU LOSE!


# Offshore Alliance

2d ·

Just prior to the Xmas Break last year, Chevron released an external Report of their workplace culture which found that Chevron had an horrific record of bullying and standing over both its direct and indirect workforce on the Gorgon and Wheatstone facilities.

The Offshore Alliance believes that Chevron only released the Report after it was set to be leaked to the media.

Chevron promised to "do better", but their toxic workplace culture has got worse. Much worse.
More recently, we have seen Chevron bosses standing over workers, threatening to dock their pay even if they don't actually take Protected Industrial Action.

This is unlawful and the Union intends banging Chevron into Court for this coercive behahiour.
27% of respondents cited management's belittling and humiliating behaviour as a key issue and 57% of Chevron facility workers had experienced or witnessed bullying and harassment in the workplace.

This is the Chevron Way and it all stems from the toxic workplace and industrial relations culture oozing from Chevron HQ in Elizabeth Quay.

38% of direct managers and supervisors and nearly 1/3 of senior leaders of Chevron were identified in the Report as perpetrators of bullying behaviours.

And how many of these Chevron bosses have been sacked for standing over workers?

Not a single senior Chevron leader appears to have been sacked for these behaviours and this has only emboldened the corporate thugs and bullies who masquerade as Chevron managers.

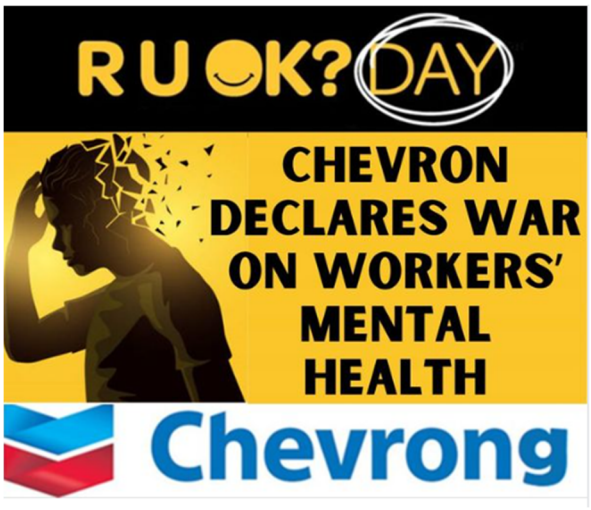
Chevron's workplace culture is as toxic as the BTEX and mercury it exposes workers to on their Gorgon facility.

The Chevron Way has been to bury the Report on bullying and harassment.

It's a pity Chevron haven't been as successful in burying carbon emissions as what it has been in burrying their Report on bullying and harrassment of workers on the Chevron facilities.

Anyone wanting a copy of the Report into Chevron's toxic workplace culture and email the Offshore Alliance at doug.heath@mua.org.au

RU OK Day on the Chevron facilities should be a reflection of how Chevron have done SFA to reign in the corporate thugs who are standing over their operations workforce on their West Coast facilities.



For Immediate Release
September 14, 2023
Lynn Helms, Ph.D., Director ND Department of Mineral Resources

NORTH Dakota | Mineral Resources
Be Legendary.™

# North Dakota Department of Mineral Resources September Director's Cut and July 2023 Production Numbers

## Oil Production Numbers

| | | |
|---|---|---|
| **June** | 34,998,134 barrels | = 1,166,604 barrels/day (final) **RF +6%** |
| **New Mexico** | 51,315,455 barrels | = 1,710,515 **+-0%** |
| **July** | 36,598,950 barrels | = 1,180,611 barrels/day **+1% RF +7%** |
| | 1,519,037 | all-time high Nov 2019 |
| | 1,138,360 barrels/day | = 96% from Bakken and Three Forks |
| | 42,251 barrels/day | = 4% from Legacy Pools |

**Revised Revenue Forecast** **1,100,000 barrels/day**

| **Crude Price ($barrel)** | **ND Light Sweet** | **WTI** | **ND Market** | |
|---|---|---|---|---|
| June | 64.18 | 70.27 | 67.23 | **RF-10%** |
| July | 70.35 | 76.03 | 71.31 | **RF+1%** |
| Today | 82.50 | 88.52 | 85.51 | **RF+22%** |
| All-time high (6/2008) | 125.62 | 134.02 | 126.75 | |
| **Revised Revenue Forecast** | | | **70.00** | |

## Gas Production and Capture

| | | | | |
|---|---|---|---|---|
| June | 97,425,398 MCF | = | 3,247,513 MCF/Day | |
| 94% Capture | 91,881,302 MCF | = | 3,062,710 MCF/Day | |
| July | 101,982539 MCF | = | 3,289,759 MCF/Day | **+1%** |
| 96% Capture | 97,617,187 MCF | = | 3,148,942 MCF/Day | |

3,289,759 MCF/day **NEW** all-time high production July 2023
3,148,942 MCF/day **NEW** all-time high capture July 2023

## Wells Permitted

| | | |
|---|---|---|
| June | 85 | |
| July | 70 | |
| August | 87 | All-time high 370 in 10/2012 |

## Rig Count

| | | |
|---|---|---|
| June | 37 | |
| July | 37 | |
| August | 37 | |
| Today | 33 | All-time high 218 on 5/29/2012 |
| Federal Surface | 0 | |
| New Mexico | 107 | |

## Waiting on Completions

| | |
|---|---|
| June | 433 |
| July | 419 |

## Inactive

| | |
|---|---|
| June | 1,693 |
| July | 1,665 |

## Completed

| | |
|---|---|
| June | 85 (Preliminary) |
| July | 83 (Preliminary) |
| August | 91 (Preliminary) |

## Producing

| | | |
|---|---|---|
| June | 18,101 | |
| July | 18,179 (Preliminary) | **NEW** All-time high 18,179 in July/2023 |
| | 15,917 wells | 88% are now unconventional Bakken/Three Forks Wells |
| | 2,262 wells | 12% produced from legacy conventional pools |

| IIJA Initial Grant | Wells PA | Sites Reclaimed |
|---|---|---|
| January | 1 | 0 |
| February | 4 | 0 |
| March | 1 | 0 |
| April | 8 | 0 |
| May | 18 | 0 |
| June | 9 | 1 |
| July | 13 | 2 |
| August | 12 | 4 |

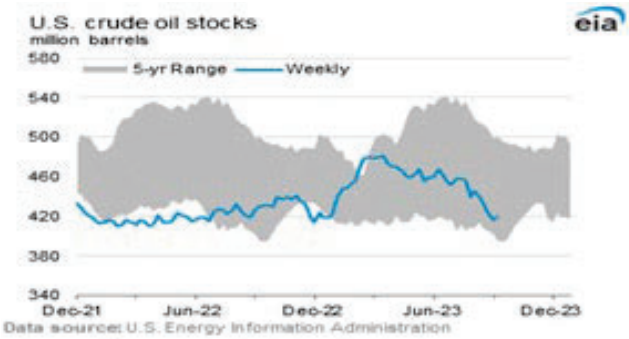
**Weekly updates are available at** [Initial Grant Information - Plugging and Reclamation | Department of Mineral Resources, North Dakota]

## Fort Berthold Reservation Activity

| | Total | Fee Land | Trust Land |
|---|---|---|---|
| Oil Production (barrels/day) | 130,512 | 45,997 | 84,515 |
| Drilling Rigs | 5 | 1 | 4 |
| Active Wells | 2,656 | 650 | 2,006 |
| Waiting on Completion | 26 | | |
| Approved Drilling Permits | 159 | 14 | 145 |
| Potential Future Wells | 3,896 | 1,114 | 2,782 |

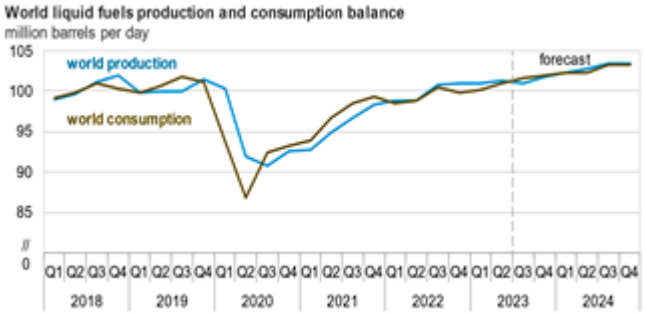
### Comments:

The drilling rig count remains low due to workforce, mergers, and acquisitions but is expected to return to the mid-forties with a gradual increase expected over the next 2 years.




There are 21 frac crews currently active.

Saudi Arabia announced unilateral oil production cuts amounting to 1 million barrels per day making the OPEC+ total cut 4.7 million bpd until the end of the year. Russia sanctions, China economic activity, looming recessions, and shifting crude oil supply chains continue to create significant price volatility.




Crude oil transportation capacity including rail deliveries to coastal refineries is adequate, but could be disrupted due to:

US Appeals Court for the ninth circuit upholding of a lower court ruling protecting the Swinomish Indian Tribal Community's right to sue to enforce an agreement that restricts the number of trains that can cross its reservation in northwest Washington state. DAPL Civil Action No. 16-1534 continues, but the courts have now ruled that DAPL can continue normal operations until the USACOE EIS is completed. Corrected Draft EIS was released 9/11/23 with comment deadline of 11/13/23.

Drilling - activity is expected to slowly increase with operators expected to maintain a permit inventory of approximately 12 months.

Seismic - 0 active, 1 recording, 0 NDIC reclamation projects, 0 remediating, 0 permitted, and 4 suspended surveys.

US natural gas storage is 8% above the five-year average. Both US and world crude oil inventories are average while the US strategic petroleum reserve remains at the lowest level since 1983.

The price of natural gas delivered to Northern Border at Watford City has decreased slightly to $2.28/MCF today. There is continues to be oversupply in the Midwest US. Current oil to gas price ratio is 38:1. The state-wide gas flared volume from June to July decreased 44 MMCFD to 141 MMCF per day, the statewide percent flared decreased to 4% and Bakken gas capture percentage increased to 96%. The historical high flared percent was 36% in 09/2011.

**Gas capture details are as follows:**

| | |
|---|---|
| Statewide | 96% |
| Statewide Bakken | 96% |
| Non-FBIR Bakken | 96% |
| FBIR Bakken | 98% |
| Trust FBIR Bakken | 98% |
| Fee FBIR | 99% |
| Deep Water Creek Bay | 80% |
| Twin Buttes | 57% |
| Charlson | 88% |

https://bismarcktribune.com/news/local/business/energy/natural-gas-production-hits-new-record-in-july-oil-production-up-1/article_21463eda-534b-11ee-b2fe-43cec8a3cf66.html

# Natural gas production hits new record in July; oil production up 1%

- **JOEY HARRIS**
- Sep 14, 2023 Updated 15 min ago
- 0

*Pump jacks bob for oil off U.S. Highway 85 in western North Dakota.*

North Dakota oil production rose in July to a level not seen in two years, while natural gas production set a monthly record, the state's top oil regulator said Thursday.

The state produced an average of nearly 1.18 million barrels per day in July, a 1% rise from June.

Natural gas production rose by 1% in July to more than 3.28 billion cubic feet per day, making for a total of 101.98 billion cubic feet over the month.

“The state of North Dakota has never before produced over 100 billion cubic feet of natural gas in a month,” State Mineral Resources Director Lynn Helms said Thursday.

The state's figures lag two months as officials collect and analyze data from energy companies.

West Texas Intermediate crude, the U.S. oil pricing benchmark, was trading at $88.52 per barrel on Thursday, compared with an average of $76.03 in July and $70.27 in June. The highest price on record was $134 in June 2008.

Oil prices are projected to continue to rise following announcements by Saudi Arabia and Russia that they both plan to cut production through the end of the year.

The state's drilling rig count as of Thursday was 33, down from 37 in August. Rig count statewide is expected to gradually rise to the mid-forties over the next two years, according to Mineral Resources.

Helms attributed the low rig count to workforce shortages.

Oil and gas companies in North Dakota are expected to see a boost in employment numbers as the state continues to receive Ukrainian citizens who will fill oilfield positions as part of the Bakken Global Recruitment of Oilfield Workers program.

Helms said the first group of Ukrainians has started working and another group is expected soon.

“My understanding from talking with the folks in the program is there’s about 500 people waiting in Ukraine that are signed up and ready to come as we get the process up to speed,” he said.

Corporate mergers and acquisitions have played a role in the low rig counts as well. Colorado-based Ovintiv’s sale of its Bakken assets to Grayson Mill of Houston earlier this year was causing some disruptions, Helms said.

The rig count was still high enough to maintain production Helms added, but not enough to “create strong growth of more than 1 or 2% (annually).”

Well completion, which is the process needed to prepare a well for production, rose to 91 in August.

Eighty-seven wells were permitted in August. The state now has 18,101 active wells.

Producers had a 96% natural gas capture rate across the state in August, up from 94% in July. The state target of 91% aims to cut into the wasteful flaring of natural gas due to a lack of pipeline infrastructure and processing capacity. Gas capture on the Fort Berthold Reservation remained at 98%.

Helms said there is a strong push to expand oil and gas production beyond core areas such as Fort Berthold.

As production moves outward, infrastructure will need to follow in order to keep flaring down, he said.

The North Dakota Petroleum Council, a trade group that represents over 550 oil and gas companies, also praised the gas capture and production records in a statement Thursday.

“Reaching this level of gas capture is truly impressive, and even more so considering the infrastructure capacity constraints that were overcome to get here,” said Brady Pelton, the group's vice president.

# MONTHLY UPDATE

## SEPTEMBER 2023 PRODUCTION & TRANSPORTATION

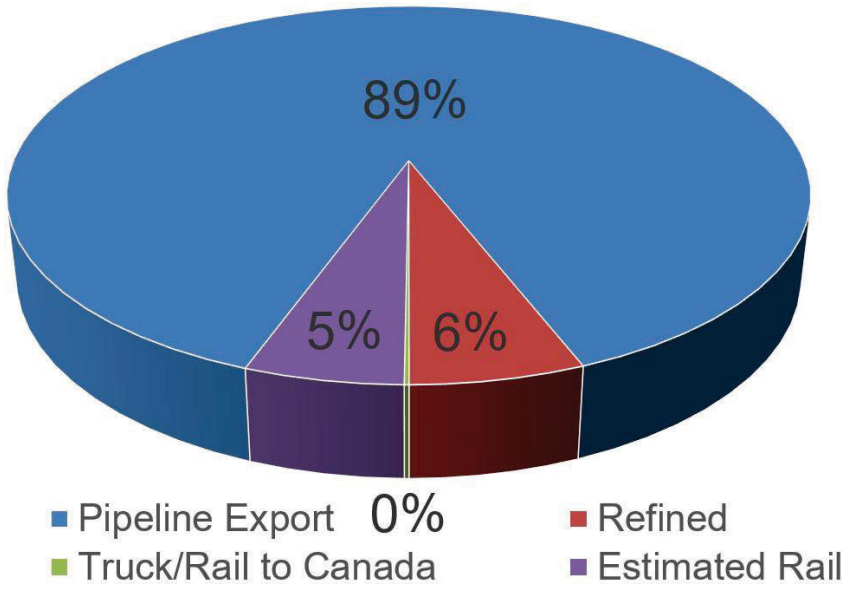
### North Dakota Oil Production

| Month | Monthly Total, BBL | Average, BOPD |
|---|---|---|
| June 2023 - Final | 34,998,134 | 1,166,604 |
| July 2023 - Prelim. | 36,598,950 | 1,180,611 |

### North Dakota Natural Gas Production

| Month | Monthly Total, MCF | Average, MCFD |
|---|---|---|
| June 2023 - Final | 97,425,398 | 3,247,513 |
| July 2023 - Prelim. | 101,982,539 | 3,289,759 |

*Estimated Williston Basin Oil Transportation, July 2023*




## CURRENT DRILLING ACTIVITY:

**NORTH DAKOTA[1]**

33 Rigs

**EASTERN MONTANA[2]**

2 Rigs

**SOUTH DAKOTA[2]**

0 Rigs

**SOURCE (SEP 14, 2023):**

1. ND Oil & Gas Division
2. Baker Hughes

## PRICES:

Crude (WTI): $90.17

Crude (Brent): $93.60

NYMEX Gas: $2.71

**SOURCE: BLOOMBERG (SEP 14, 2023 1PM EST)**

## GAS STATS*

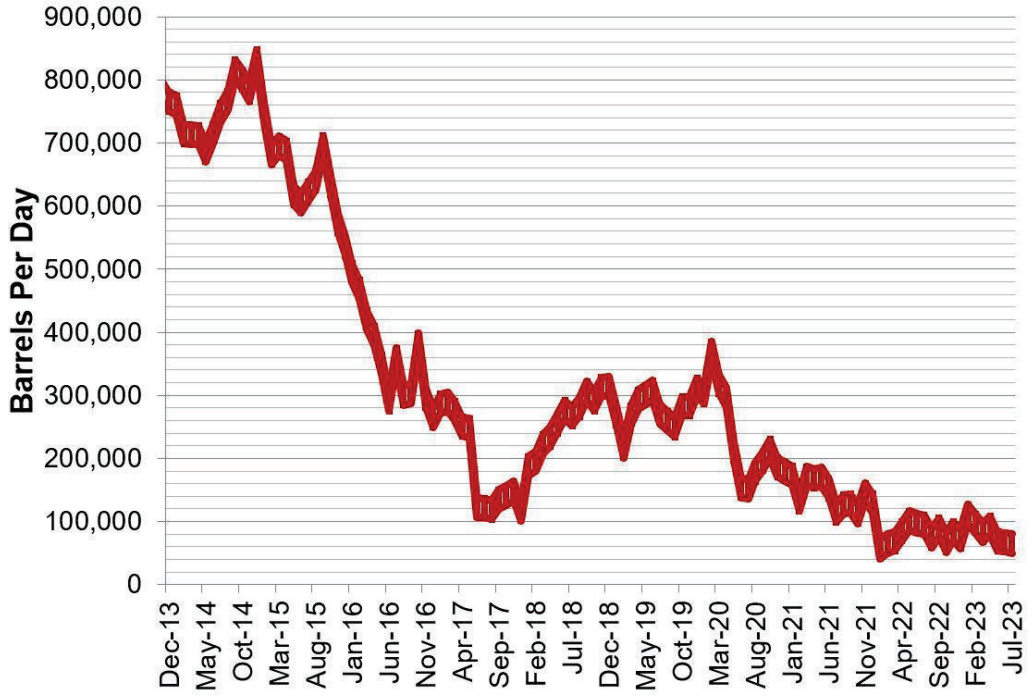
**96% CAPTURED & SOLD**

**3% FLARED DUE TO CHALLENGES OR CONSTRAINTS ON EXISTING GATHERING SYSTEMS**

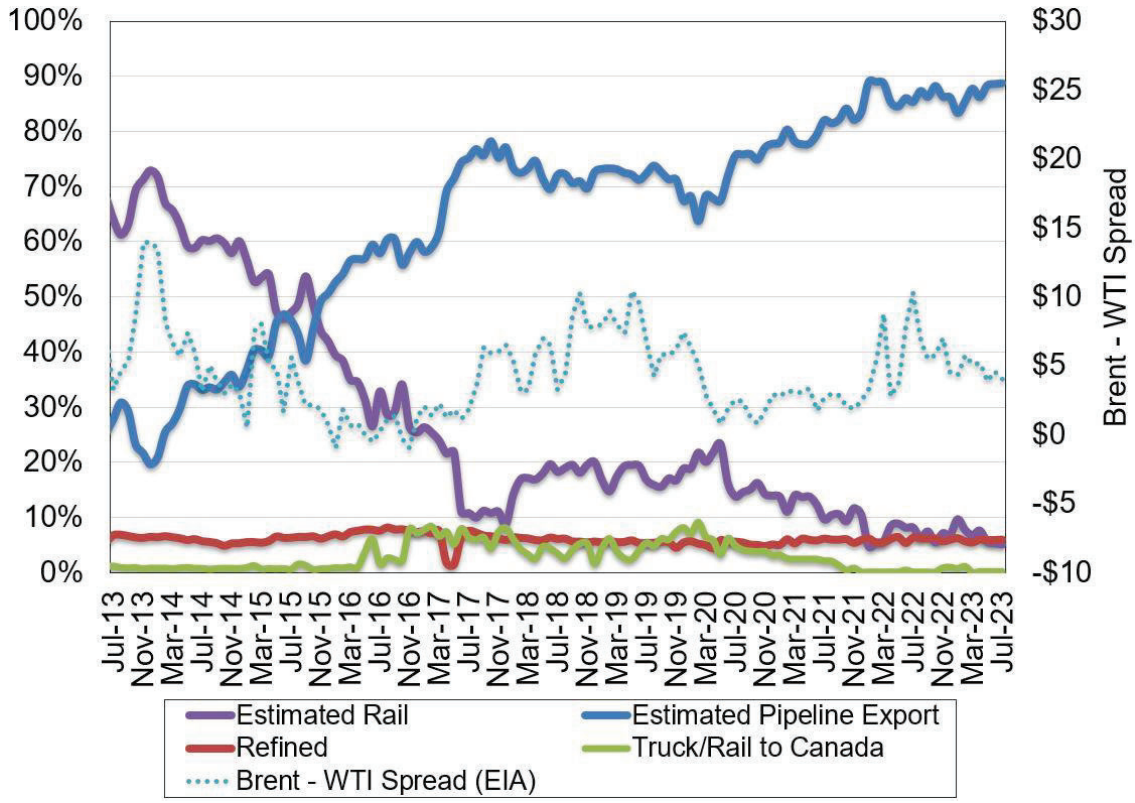
**1% FLARED FROM WELL WITH ZERO SALES**

***JULY 2023 NON-CONF DATA***

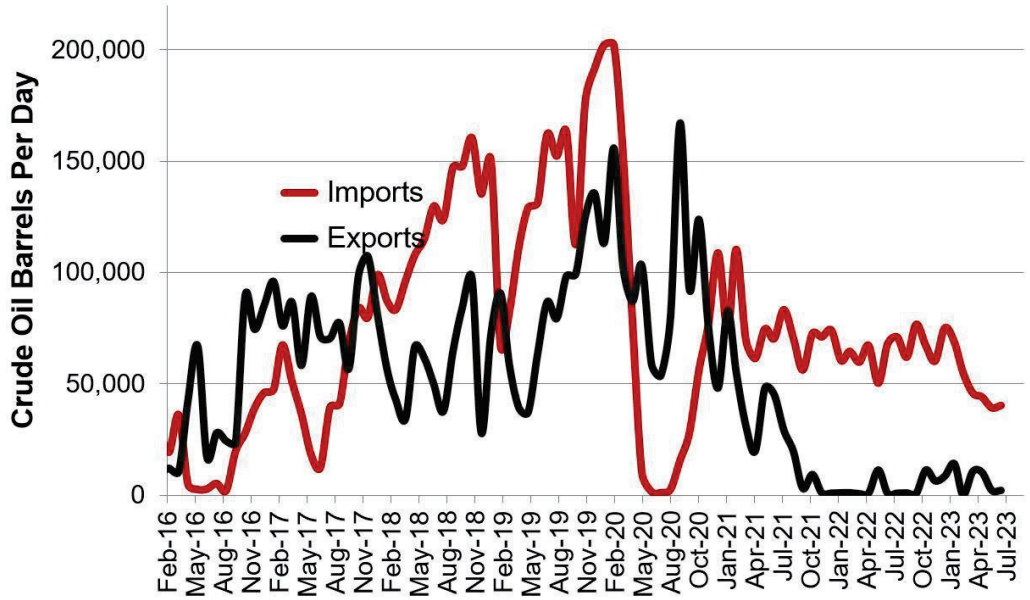
## *Estimated North Dakota Rail Export Volumes*




## *Estimated Williston Basin Oil Transportation*

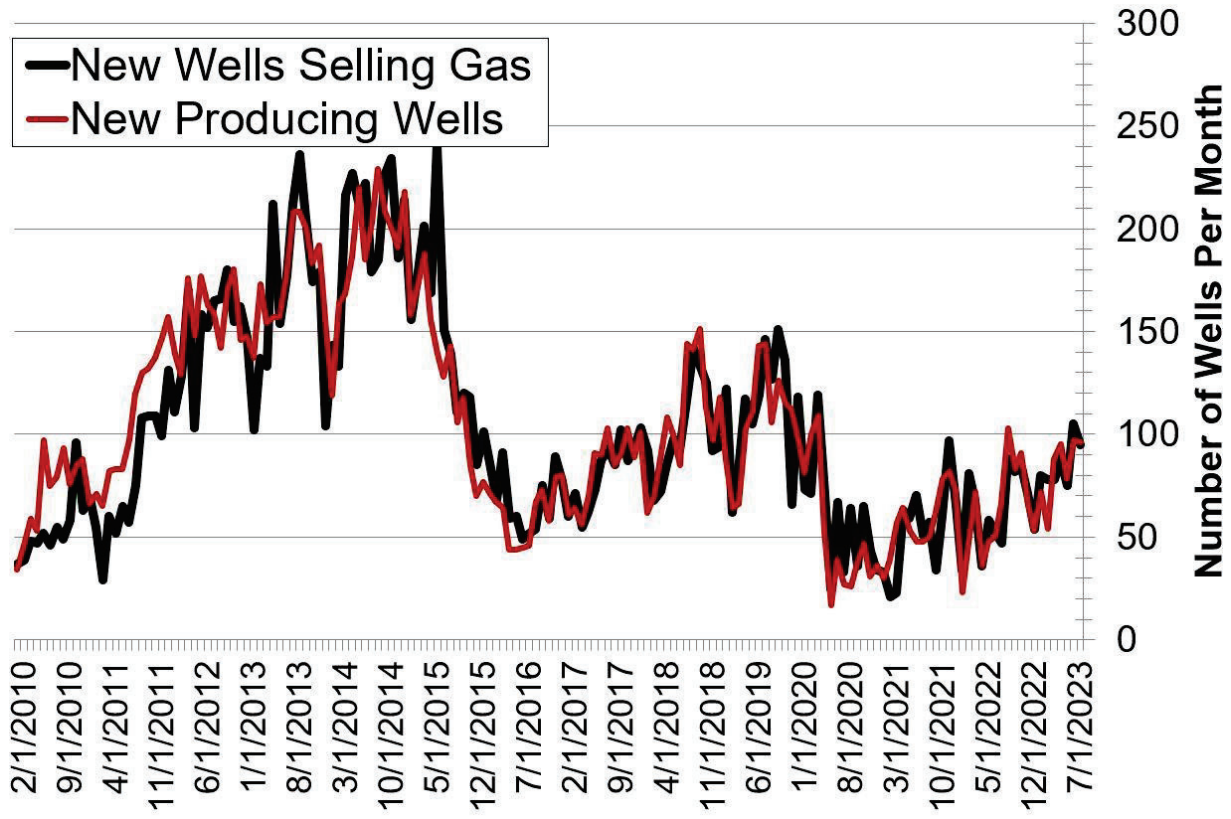


## *Williston Basin Truck/Rail Imports and Exports with Canada*




***Data for imports/exports chart is provided by the US International Trade Commission and represents traffic across US/Canada border in the Williston Basin area.***

## *New Gas Sales Wells per Month*



## *US Williston Basin Oil Production, BOPD*

### 2022

| MONTH | ND | EASTERN MT* | SD | TOTAL |
|---|---|---|---|---|
| January | 1,091,931 | 51,895 | 2,709 | 1,146,535 |
| February | 1,095,503 | 51,175 | 2,742 | 1,149,420 |
| March | 1,129,936 | 54,768 | 2,709 | 1,187,413 |
| April | 908,697 | 54,121 | 2,338 | 965,156 |
| May | 1,062,228 | 53,276 | 2,648 | 1,118,152 |
| June | 1,099,366 | 63,256 | 2,764 | 1,165,386 |
| July | 1,073,624 | 60,614 | 2,774 | 1,137,012 |
| August | 1,075,801 | 60,587 | 2,756 | 1,139,144 |
| September | 1,126,138 | 58,103 | 2,679 | 1,186,920 |
| October | 1,122,122 | 54,284 | 2,621 | 1,179,027 |
| November | 1,098,415 | 57,734 | 2,682 | 1,158,831 |
| December | 957,864 | 56,738 | 2,199 | 1,016,801 |

### 2023

| MONTH | ND | EASTERN MT* | SD | TOTAL |
|---|---|---|---|---|
| January | 1,062,878 | 62,094 | 2,610 | 1,127,582 |
| February | 1,158,978 | 63,536 | 2,475 | 1,224,989 |
| March | 1,124,896 | 64,580 | 2,652 | 1,192,128 |
| April | 1,135,825 | 61,897 | 2,557 | 1,200,279 |
| May | 1,134,999 | 60,760 | 2,560 | 1,198,319 |
| June | 1,166,604 | | 2,274 | |
| July | 1,180,611 | | | |
| August | | | | |
| September | | | | |
| October | | | | |
| November | | | | |
| December | | | | |

** Eastern Montana production composed of the following Counties: Carter, Daniels, Dawson, Fallon, McCone, Powder River, Prairie, Richland, Roosevelt, Sheridan, Valley, Wibaux*

Bennett Jones LLP
4500 Bankers Hall East, 855 - 2nd Street SW
Calgary, Alberta, Canada T2P 4K7
Tel: 403.298.3100 Fax: 403.265.7219

**Martin Ignasiak KC**
**Partner**
Direct Line: 403.298.3121
e-mail: ignasiakm@bennettjones.com
Our File No.: 25827.341

September 7, 2023

**By Electronic Filing**

Canada Energy Regulator
Suite 210
517 Tenth Avenue SW
Calgary, AB T2R 0A8

**Attention: Ramona Sladic, Secretary of the Commission**

Dear Ramona Sladic:

**Re: File OF-Tolls-Group1-T260-2023-03 01**
**Trans Mountain Pipeline ULC ("Trans Mountain")**
**Application for Interim Commencement Date Tolls and Other Related Matters related to the Transportation of Petroleum on the Expanded Trans Mountain Pipeline System**
**Written Comments in Relation to Information Request No. 1 Responses**

In accordance with Process Letter No. 2,[1] in this submission Canadian Natural Resources Limited ("**Canadian Natural**") provides its comments on the information request no. 1 responses ("**IR Responses**").[2] Canadian Natural also provides its position on the Preliminary Decision and its views on the "broader issues" that should be considered as part of the Final Interim Tolls Decision or, in the alternative, when final tolls are adjudicated.[3]

## INTRODUCTION

Canadian Natural is fully supportive of the two step process that the Commission has established for adjudicating the Interim Commencement Date Tolls ("**Interim Tolls**"). Canadian Natural respectfully requests that the Commission issue a Preliminary Decision which:

[1] CER Process Letter No. 2 (August 1, 2023) Filing ID: A8R9A8 [**CER Process Letter No. 2**].
[2] Trans Mountain, Response to CER Information Request No. 1 (August 16, 2023), Filing ID: A8S1R3 [**IR Responses**]; Vancouver Fraser Port Authority, Response to CER Information Request No. 1 (August 16, 2023), Filing ID: A8S1X1.
[3] CER Process Letter No. 2 at PDF p. 2.

| Process Step | Responsible Participant | Deadline |
|---|---|---|
| Intervenors' Submission for Hearing | Intervenors | February 23, 2024 |
| Applicant Submission for Hearing | Trans Mountain | March 8, 2024 |
| Hearing | All parties | Late March or early April, 2024 |
| Written or Oral Argument | All parties | Mid to end of April, 2024 |

As indicated above, Canadian Natural is committed to engaging with Trans Mountain to facilitate an efficient exchange of information to narrow the scope of determinations needed to be made by the Commission as part of the Final Interim Tolls Decision. Therefore, provided Trans Mountain is prepared to work constructively with shippers to facilitate a review of whether costs were reasonably and necessarily incurred, and properly categorized, these timelines may be condensed further. There is nothing preventing Trans Mountain from working directly with shippers during the Interim Tolls process to narrow the scope of issues that will be subject to the Review of Costs.

A Final Interim Tolls Decision may be issued in early Q2 of 2024, thereby substantially addressing the concerns Trans Mountain has raised with the establishment of Interim Tolls at the Mid-Point on an interim basis. Trans Mountain maintains that the Commencement Date will be late in Q1 2024. However, this remains uncertain as evidenced by: Trans Mountain's recent filing of an Application for Deviation which will require a hearing to take place on September 14 and 15, 2023,[38] and; Trans Mountain's previous predictions of a Commencement Date having not materialized.[39] Although Canadian Natural hopes for an earlier Commencement Date, unfortunately, it is probable that the Commencement Date will be delayed into Q2 or later in 2024. It is possible, depending on the eventual Commencement Date, that the Interim Tolls levied will never be based on the Mid-Point because a Final Interim Tolls Decision may be issued prior to the true Commencement Date. In any event, Interim Tolls will only be based on the Mid-Point for a limited time and will be subsequently based on what has been determined to be costs that were reasonably and necessarily incurred and properly

[38] CER, Letter to Trans Mountain re Segment 5.3 Pipsell Area – Oral hearing information and revised schedule (August 30, 2023), Filing ID: A8S3R3.
[39] Trans Mountain, "Trans Mountain Corporation Updates Expansion Project Cost and Schedule" (February 18, 2022), available online: <https://www.transmountain.com/news/2022/trans-mountain-corporation-updates-expansion-project-cost-and-schedule>, in which Trans Mountain claimed mechanical completion would "occur in the third quarter of 2023". The Application now states this will occur "by end of 2023"; See, Tans Mountain, Application for Approval of Interim Commencement Date Tolls and other Matters Related to the Transportation of Petroleum on the Expanded Trans Mountain Pipeline System (June 1, 2023), Filing ID: A8Q5Z9 at para 5 (PDF p. 4 of 145); pursuant to Section 67 of the Traffic, Tolls and Tariffs provisions in Part 3 of the Canada. Similarly, in Trans Mountain, "Trans Mountain Corporation Provides Update on the Expansion Project" (March 10, 2023), available online: <https://www.transmountain.com/news/2023/trans-mountain-corporation-provides-update-on-the-expansion-project>, where Trans Mountain advised that "[c]onstruction of the Project is close to 80 per cent complete, with mechanical completion expected to occur at the end of 2023, and the pipeline will be in service in the first quarter of 2024."

Excerpt https://www.transmountain.com/news/2023/trans-mountain-corporation-releases-second-quarter-2023-results

## Trans Mountain Corporation Releases Second Quarter 2023 Results

Aug. 29, 2023

As of June 30, 2023, construction of the Project is approximately 90 per cent complete, with $24.0 billion in construction capital spending incurred plus $3.3 billion in financial carrying costs capitalized since the inception of the Project. TMC continues to target the end of 2023 for mechanical completion with commercial service of the Project anticipated to occur in the first quarter of 2024.

As of August 19, 2023, construction of the Project is 94 per cent mechanically complete with approximately 42 kilometres of pipe left to install. Berth 1 at the Westridge Marine Terminal has been operating since mid-July. We made significant progress on watercourse and highway crossings and construction in the Lower Mainland is 93 per cent complete and 97 per cent of our facilities in Alberta and B.C. (including Edmonton Terminal and Alberta/B.C. pump stations) are also complete. We have mitigation and contingency plans in place due to construction challenges in areas including Burnaby Mountain Tunnel, Jacko Lake and Mountain 3 in Spread 5B. We are currently planning and targeting the commencement of service on the expanded pipeline system near the end of the first quarter of 2024.

Excerpt https://www.transmountain.com/news/2023/trans-mountain-corporation-releases-first-quarter-2023-financial-results

## Trans Mountain Corporation Releases First Quarter 2023 Financial Results

May 30, 2023

As of March 31, 2023, construction of the Trans Mountain Expansion Project (“the Project”) is approximately 82 per cent complete, with $21.5 billion in construction capital spending incurred plus $2.8 billion in financial carrying costs capitalized since the inception of the Project.

Trans Mountain anticipates mechanical completion of the Project to occur at the end of 2023 with commercial service expected to occur in the first quarter of 2024. The company’s projected Adjusted EBITDA is expected to be approximately $2.4 billion in the first full year of the expanded assets operation and expected to grow annually thereafter. These projections are underpinned by long-term contractual commitments for 80 per cent of the system’s 890,000 barrels a day of capacity and expected utilization of uncontracted capacity of the system once in service.

Excerpt https://www.transmountain.com/news/2023/trans-mountain-corporation-releases-fourth-quarter-and-year-end-2022-financial-results

## Trans Mountain Corporation Releases Fourth Quarter and Year End 2022 Financial Results

May 9, 2023

As of December 31, 2022, construction of the Trans Mountain Expansion Project (“the Project”) is approximately 75 per cent complete, with $18.9 billion in construction capital spending incurred. Trans Mountain anticipates mechanical completion of the Project to occur at the end of 2023 with commercial service expected to occur in the first quarter of 2024. The company’s projected Adjusted EBITDA is expected to be approximately $2.4 billion in the first full year of the expanded assets operation and expected to grow annually thereafter. These projections are underpinned by long-term contractual commitments for 80 per cent of the system’s 890,000 barrels a day of capacity and expected utilization of uncontracted capacity of the system once in service.

# Oil Market Highlights

## Crude Oil Price Movements

In August, the OPEC Reference Basket (ORB) increased by $6.27, or 7.7%, m-o-m to average of $87.33/b. The ICE Brent front-month contract rose by $4.94, or 6.2%, m-o-m to average $85.10/b, and the NYMEX WTI front-month contract increased by $5.29, or 7.0%, m-o-m to average $81.32/b. The DME Oman front-month contract rose by $5.30, or 6.5%, m-o-m to settle at $86.46/b. The front-month ICE Brent/NYMEX WTI spread narrowed by 35¢ m-o-m to average $3.78/b. The futures forward curves of ICE Brent, NYMEX WTI and DME Oman steepened further on the improving outlook for oil market fundamentals. At the same time, hedge funds and other money managers cut their total net long positions in ICE Brent and NYMEX WTI.

## World Economy

World economic growth forecast remains unchanged at 2.7% for 2023 and at 2.6% for 2024. US economic growth forecast remains at 1.8% for 2023 and 0.7% for 2024. Similarly, the Euro-zone economic growth forecast for 2023 and 2024 remains at 0.6% and 0.8%, respectively. Japan's economic growth forecast is revised up to stand at 1.5%, while forecast growth for 2024 is unchanged at 1.0%. China's 2023 economic growth forecast remains at 5.2%, with 2024 slightly lower at 4.8%, both unchanged from last month. India's 2023 economic growth forecast is revised up to 6%, while growth for 2024 remains at 5.9%. Brazil's economic growth forecast is revised up to 2.1% in 2023, while growth for 2024 is unchanged at 1.2%. For Russia, the 2023 economic growth forecast is revised up to 1.0%, while the growth forecast for 2024 remains at 1.0%.

## World Oil Demand

World oil demand growth forecast in 2023 remains unchanged at 2.4 mb/d. Upward revisions made are all based on actual data received for China, US and OECD Europe, while Other Asia is revised downwards. In the OECD region, oil demand in 2023 is expected to rise by 0.1 mb/d, while in the non-OECD region, oil demand is expected to rise by about 2.3 mb/d. For 2024, world oil demand is expected to grow by a healthy 2.2 mb/d, unchanged from the previous month's assessment. The OECD is expected to grow by about 0.3 mb/d, with OECD Americas contributing the largest increase. The non-OECD is set to drive growth, increasing by about 2.0 mb/d, with China, India, Middle East and Other Asia contributing the most.

## World Oil Supply

Non-OPEC liquids supply growth forecast is revised up slightly to 1.6 mb/d in 2023. Main drivers of liquids supply growth for 2023 include the US, Brazil, Norway, Kazakhstan, Guyana and China. For 2024, non-OPEC liquids production is expected to grow by 1.4 mb/d, unchanged from the previous month's assessment. Main drivers for liquids supply growth next year are set to be the US, Canada, Guyana, Brazil, Norway and Kazakhstan. The largest declines are anticipated in Mexico and Malaysia. OPEC NGLs and non-conventional liquids are forecast to grow by around 50 tb/d in 2023 to average 5.44 mb/d and by another 65 tb/d to average 5.51 mb/d in 2024. OPEC-13 crude oil production in August increased by 113 tb/d m-o-m to an average 27.45 mb/d, according to available secondary sources.

## Product Markets and Refining Operations

In August, refinery margins strengthened and reached their largest monthly gains since January 2023. In the US Gulf Coast (USGC), margins trended upwards for the third consecutive month given robust middle distillates performance, which drove margins to new highs. In Rotterdam, strong diesel exports to the US, amid healthy jet/kerosene requirements, led to lower availability for both products in the region. In Singapore, margins received support from a tighter product balance as delays in product export quotas limited product supplies from China to Singapore. The global refinery intake showed a 1.1 mb/d m-o-m gain in August to an average of 82.9 mb/d, resulting in a year-on-year intake growth of about 3.9 mb/d. In the coming months, refinery intakes are expected to come under pressure from rising offline capacities, amid the start of a heavy maintenance season.

## Tanker Market

The tanker market showed a mixed performance in August. Dirty tanker freight rates continued to decline across all monitored routes, as long tonnage lists and reduced activities weighed on rates. VLCCs were down 12% m-o-m on the Middle East-to-East route. In the Suezmax market, rates on the US to Europe route fell 20%, despite the region seeing slightly more activity. Aframax rates on the Mediterranean-to-Northwest Europe route declined 20%. Limited activities also prompted increased competition between the various vessel classes, further weighing on rates. In contrast, clean spot freight rates saw another month of improvements across the board on all monitored routes, amid increased activities toward the end of the month.

## Crude and Refined Products Trade

Preliminary data shows US crude imports in August averaged 6.9 mb/d, the highest since August 2019 amid increased flows from Latin America, while US crude exports moved back above 4 mb/d supported by higher flows to South Korea. Japan's crude imports edged up m-o-m in July to average 2.34 mb/d after witnessing a 12 month low in June, while the country's product flows experienced marginal adjustments. China's crude imports have shown some volatility in recent months, although with an overall good performance so far this year. Crude inflows fell to 10.3 mb/d in July, following two months above 12 mb/d, as refiners leaned on inventories. However, recently released August data show China's crude imports rebounded again to average 12.4 mb/d, with summer gasoline demand and positive export margins for diesel providing support. India's July crude imports declined m-o-m for the fifth month in a row to average 4.6 mb/d. India's product exports remained flat for the third month in a row, averaging 1.3 mb/d. Preliminary estimates show OECD Europe crude imports strengthened further in August, amid higher inflows from Brazil. Product imports were down slightly, as a sharp fall in diesel imports outpaced an uptick in jet and LPG.

## Commercial Stock Movements

Preliminary data for July 2023 sees total OECD commercial oil stocks down by 7.9 mb m-o-m. At 2,779 mb, they were 190 mb below the 2015–2019 average. Within the components, crude stocks fell by 14.2 mb m-o-m, while products stocks rose by 6.3 mb m-o-m. OECD commercial crude stocks stood at 1,348 mb in July, which is114 mb lower than the 2015–2019 average. Total product stocks stood at 1,430 mb in July, which is 77 mb below the 2015–2019 average. In terms of days of forward cover, OECD commercial stocks in July remained unchanged at 59.5 days m-o-m, which is 3.0 days below the 2015–2019 average.

## Balance of Supply and Demand

Demand for OPEC crude in 2023 is revised down by 0.1 mb/d from the previous month's assessment to stand at 29.2 mb/d, which is around 0.8 mb/d higher than in 2022. Demand for OPEC crude in 2024 is also revised down by 0.1 mb/d from the previous month's assessment to stand at 30.0 mb/d, which is 0.8 mb/d higher than the estimated 2023 level.

# Feature Article

## A review of world economic developments

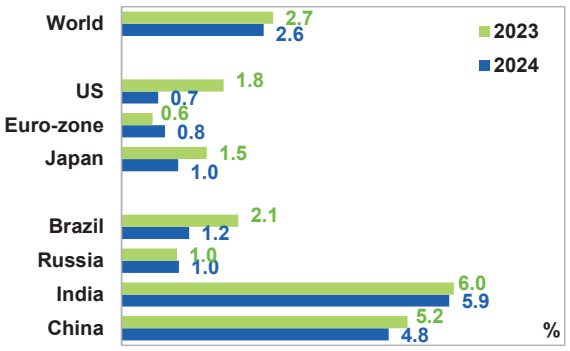
The global economic growth dynamics in 1H23 have been resilient despite the numerous challenges, including high inflation, elevated interest rates and geo-political tensions. This steady global economic growth trend continued into 3Q23, supported by buoyant consumer spending, especially in the services sector. With this, the global growth is expected at 2.7% for 2023 and 2.6% for 2024 (***Graph 1***).

The downside risk for this projection include the elevated key interest rates in G7 except Japan, challenges in China's growth dynamic, and a continuation of the conflict in Eastern Europe. Sovereign debt levels have reached record highs in many economies, are also a rising concern.

However, an upside potential may come from less-accentuated inflation, providing central banks with room for accommodative monetary policies in the near-term.

Emerging Asia, particularly India, Brazil and Russia, could further surprise to the upside, with domestic demand and external trade accelerating. An even stronger-than-anticipated growth trend in China, supported by further fiscal and monetary stimulus, may provide additional support to global economic growth. Moreover, if the US continues to keep its current momentum, growth could turn out to be higher than expected.

**Graph 1: GDP growth forecast for 2023–24**




*Source: OPEC.*

Most of the support to global economic growth this year came from the ongoing rebound in the services sector. In particular, the contact-intensive areas of the services sector, including leisure, travel and tourism, experienced an extended boom after the long period of pandemic-related lockdowns. As China and Japan withdrew their COVID-19-related restrictions only at the start of this year, positive economic activity has been especially strong in East-Asia.

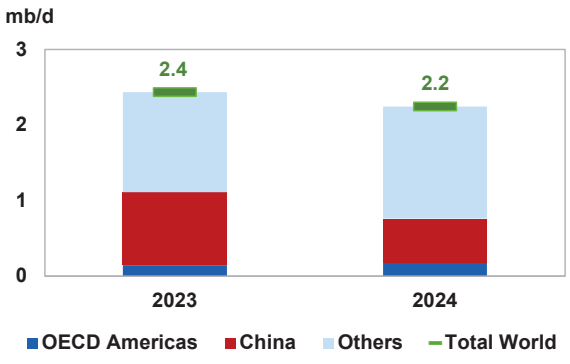
Going forward, an important dynamic in shaping the trajectory of the global economy will be the balance between the sectorial contributions of the industrial and services sectors. Economies that are skewed towards the industrial sector, which were more successful during the pandemic years, are currently lagging in terms of growth dynamic. The current large weight of the services sector contribution is forecast to gradually taper off while the industrial input to the global economy is expected to gain momentum towards the end of the year.

The ongoing global economic growth is forecast to drive oil demand, especially given the recovery in tourism, air travel and steady driving mobility. Oil demand is expected to grow by 2.4 mb/d y-o-y in 2023 and 2.2 mb/d in 2024 (***Graph 2***).

Pre-COVID-19 levels of total global oil demand will be surpassed in 2023 to average at 102.1 mb/d and rise further to 104.3 mb/d in 2024.

On the supply side, OPEC and non-OPEC countries participating in the Declaration of Cooperation (DoC) continue to assess the market conditions, address its challenges and take necessary measure at any time and as needed in an effort to ensure market stability for the benefit of producers, consumers and the global economy.

**Graph 2: World oil demand growth in 2023–24**




*Source: OPEC.*

# World Oil Demand

For 2023, world oil demand growth remains at 2.4 mb/d, broadly unchanged from last month's assessment, to average 102.1 mb/d. Some upward adjustments were made to the estimate for 3Q23 based on actual July data, and this was offset by some downward revisions to 2H23 data, mainly in Other Asia.

In the OECD region, oil demand in 2023 is expected to rise by 120 tb/d to average 46.1 mb/d. Demand in OECD Americas is expected to witness the largest regional rise, led by the US, on the back of growing jet fuel demand and expanding gasoline requirements. Light distillates are also projected to support demand growth this year.

In the non-OECD region, total oil demand is expected to rise by about 2.3 mb/d to average 55.9 mb/d in 2023. A steady increase in transportation and industrial fuel demand, supported by a recovery in China's activity, as well as other non-OECD regions, is projected to boost demand in the region in 2023.

In 2024, solid global economic growth, amid continued improvements in China, is expected to further boost oil consumption. World oil demand is expected to rise by 2.2 mb/d y-o-y, with total world oil demand projected to average 104.3 mb/d.

In the OECD, oil demand is expected to rise by 0.26 mb/d to average 46.4 mb/d. US oil demand is forecast to exceed pre-pandemic levels at 20.7 mb/d, mainly due to the recovery in jet fuel and improvements in gasoline and light distillate demand. OECD Europe and the OECD Asia Pacific are expected to remain below pre-pandemic levels at 13.5 mb/d and 7.4 mb/d, respectively. This is due to expectations for slower economic activity in the two regions and ongoing supply chain bottlenecks that would weigh on industrial activity, particularly in OECD Europe.

In the non-OECD, oil demand in 2024 is forecast to increase by almost 2.0 mb/d y-o-y to average 57.9 mb/d. China and India are expected to see the largest growth. Other regions, particularly the Middle East and Other Asia, are also set to see considerable gains, supported by a positive economic outlook. In terms of fuels, jet kerosene, gasoline and diesel are assumed to lead non-OECD oil demand growth in 2024.

**Table 4 - 1: World oil demand in 2023*, mb/d**

| | | | | | | | Change 2023/22 | |
|---|---|---|---|---|---|---|---|---|
| **World oil demand** | **2022** | **1Q23** | **2Q23** | **3Q23** | **4Q23** | **2023** | **Growth** | **%** |
| **Americas** | 25.11 | 24.71 | 25.42 | 25.68 | 25.19 | 25.25 | 0.15 | 0.58 |
| *of which US* | *20.43* | *20.11* | *20.72* | *20.83* | *20.37* | *20.51* | *0.08* | *0.39* |
| **Europe** | 13.52 | 13.10 | 13.40 | 13.99 | 13.39 | 13.47 | -0.05 | -0.35 |
| **Asia Pacific** | 7.38 | 7.81 | 6.93 | 7.22 | 7.65 | 7.40 | 0.02 | 0.31 |
| **Total OECD** | **46.00** | **45.62** | **45.75** | **46.89** | **46.22** | **46.12** | **0.12** | **0.26** |
| **China** | 14.85 | 15.63 | 15.96 | 15.57 | 16.11 | 15.82 | 0.97 | 6.51 |
| **India** | 5.14 | 5.40 | 5.40 | 5.21 | 5.50 | 5.38 | 0.24 | 4.69 |
| **Other Asia** | 9.02 | 9.40 | 9.44 | 8.99 | 9.14 | 9.24 | 0.22 | 2.41 |
| **Latin America** | 6.44 | 6.60 | 6.70 | 6.73 | 6.68 | 6.68 | 0.24 | 3.75 |
| **Middle East** | 8.30 | 8.63 | 8.32 | 8.86 | 8.73 | 8.64 | 0.34 | 4.09 |
| **Africa** | 4.40 | 4.69 | 4.27 | 4.43 | 4.88 | 4.57 | 0.17 | 3.79 |
| **Russia** | 3.56 | 3.69 | 3.45 | 3.60 | 3.87 | 3.65 | 0.09 | 2.49 |
| **Other Eurasia** | 1.15 | 1.24 | 1.21 | 1.02 | 1.23 | 1.17 | 0.02 | 2.03 |
| **Other Europe** | 0.77 | 0.84 | 0.77 | 0.75 | 0.83 | 0.80 | 0.03 | 4.00 |
| **Total Non-OECD** | **53.62** | **56.12** | **55.51** | **55.17** | **56.96** | **55.94** | **2.32** | **4.32** |
| **Total World** | **99.62** | **101.74** | **101.26** | **102.06** | **103.18** | **102.06** | **2.44** | **2.45** |
| **Previous Estimate** | 99.57 | 101.65 | 101.18 | 101.96 | 103.21 | 102.01 | 2.44 | 2.45 |
| **Revision** | 0.05 | 0.08 | 0.08 | 0.09 | -0.04 | 0.05 | 0.00 | 0.00 |

*Note: * 2023 = Forecast. Totals may not add up due to independent rounding.*

*Source: OPEC.*

**Table 4 - 2: World oil demand in 2024*, mb/d**

| World oil demand | 2023 | 1Q24 | 2Q24 | 3Q24 | 4Q24 | 2024 | Change 2024/23 Growth | Change 2024/23 % |
|---|---|---|---|---|---|---|---|---|
| Americas | 25.25 | 24.90 | 25.59 | 25.89 | 25.34 | 25.43 | 0.18 | 0.71 |
| *of which US* | *20.51* | *20.25* | *20.86* | *20.99* | *20.51* | *20.65* | *0.14* | *0.69* |
| Europe | 13.47 | 13.15 | 13.46 | 14.06 | 13.42 | 13.52 | 0.06 | 0.41 |
| Asia Pacific | 7.40 | 7.84 | 6.95 | 7.25 | 7.65 | 7.42 | 0.02 | 0.29 |
| **Total OECD** | **46.12** | **45.89** | **46.00** | **47.20** | **46.42** | **46.38** | **0.26** | **0.56** |
| China | 15.82 | 16.20 | 16.42 | 16.19 | 16.78 | 16.40 | 0.58 | 3.67 |
| India | 5.38 | 5.63 | 5.64 | 5.44 | 5.69 | 5.60 | 0.22 | 4.09 |
| Other Asia | 9.24 | 9.66 | 9.69 | 9.35 | 9.50 | 9.55 | 0.31 | 3.35 |
| Latin America | 6.68 | 6.79 | 6.88 | 6.95 | 6.84 | 6.87 | 0.19 | 2.84 |
| Middle East | 8.64 | 8.91 | 8.76 | 9.41 | 8.98 | 9.02 | 0.38 | 4.40 |
| Africa | 4.57 | 4.80 | 4.45 | 4.60 | 5.01 | 4.72 | 0.15 | 3.28 |
| Russia | 3.65 | 3.75 | 3.56 | 3.75 | 3.94 | 3.75 | 0.10 | 2.75 |
| Other Eurasia | 1.17 | 1.27 | 1.24 | 1.08 | 1.28 | 1.22 | 0.04 | 3.77 |
| Other Europe | 0.80 | 0.86 | 0.78 | 0.77 | 0.84 | 0.81 | 0.01 | 1.72 |
| **Total Non-OECD** | **55.94** | **57.88** | **57.43** | **57.54** | **58.86** | **57.93** | **1.99** | **3.55** |
| **Total World** | **102.06** | **103.76** | **103.43** | **104.74** | **105.28** | **104.31** | **2.25** | **2.20** |
| Previous Estimate | 102.01 | 103.68 | 103.35 | 104.64 | 105.32 | 104.25 | 2.25 | 2.20 |
| Revision | 0.05 | 0.08 | 0.08 | 0.09 | -0.04 | 0.05 | 0.00 | 0.00 |

*Note: * 2024 = Forecast. Totals may not add up due to independent rounding.*
*Source: OPEC.*

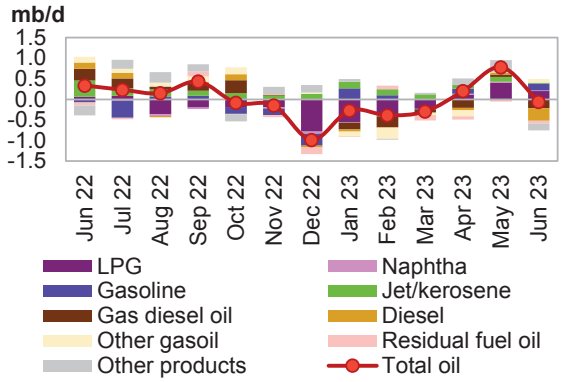
# OECD

# OECD Americas

## Update on the latest developments

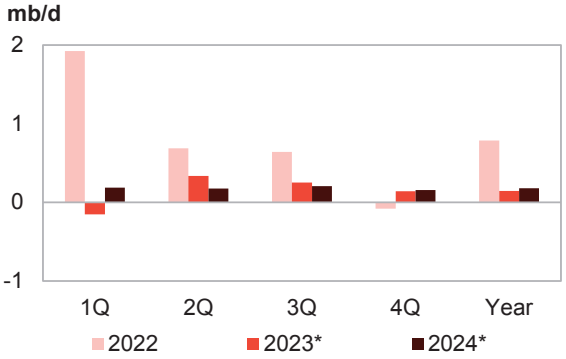
**Oil demand in OECD Americas** in **June** softened y-o-y by 58 tb/d, a significant decline from y-o-y growth of 781 tb/d in May. Details of the contribution of various products are discussed in the sub-section for the US.

**Graph 4 - 1: OECD Americas oil demand by main petroleum product category, y-o-y change**




*Sources: IEA, JODI, OPEC and national sources.*

**Graph 4 - 2: OECD Americas oil demand, y-o-y change**




*Note: * 2023 and 2024 = Forecast.*
*Source: OPEC.*

Oil demand in the **US** was almost flat y-o-y in June following strong growth of 556 tb/d in May. Demand for diesel and residual fuel oil declined, while demand for gasoline and LPG saw healthy y-o-y gains.

General inflation has continued to retract significantly in the US, with the general price index slowing further to 3% in June, down from 4% in May. The services PMI has been in expansion territory for more than 14 months, with a level of 53.0 points in June, up from 50.3 in May. However, the June manufacturing PMI stood at 46.0, remaining below the growth-indicating level of 50.0 for the tenth consecutive month.

Data from the Federal Highway Administration shows that travelled miles on all roads increased by 3.1% (+8.4 billion vehicle miles) for June 2023, when compared with June 2022. The International Air Transport Association's (IATA) Air Passenger Market Analysis reported that North America's revenue passenger-kilometres (RPKs) outperformed pre-pandemic traffic by 0.8% in June. Furthermore, the international RPKs in June were 2.0% higher than in June 2019.

The largest y-o-y decline in June was recorded by the ´other products´ category, which fell by 273 tb/d, down from y-o-y growth of 197 tb/d in the previous month. Diesel also softened y-o-y by 91 tb/d, down from the 54 tb/d y-o-y increase in May. Residual fuels witnessed an annual decline of 57 tb/d in June, compared to a 98 tb/d y-o-y decline in May. Naphtha was almost flat in June, down from 12 tb/d, y-o-y growth seen in May.

On the positive side, steady driving mobility and the continued recovery in air travel supported transportation fuels and petrochemical feedstock demand in June. Gasoline saw y-o-y growth of 204 tb/d. LPG saw y-o-y growth of 160 tb/d, supported by a weak baseline and lower prices relative to naphtha, which led to increased demand as a feedstock in petrochemical plants. On the back of sustained air travel activity, jet/kerosene posted y-o-y growth of 53 tb/d, slightly down on the 91 tb/d y-o-y growth in May.

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

| By product | Jun 22 | Jun 23 | Change Growth | Jun 23/Jun 22 % |
|---|---|---|---|---|
| **LPG** | 3.24 | 3.40 | 0.16 | 4.9 |
| **Naphtha** | 0.13 | 0.13 | 0.00 | -3.1 |
| **Gasoline** | 9.08 | 9.28 | 0.20 | 2.2 |
| **Jet/kerosene** | 1.69 | 1.74 | 0.05 | 3.1 |
| **Diesel** | 4.05 | 3.96 | -0.09 | -2.2 |
| **Fuel oil** | 0.32 | 0.26 | -0.06 | -17.9 |
| **Other products** | 2.22 | 1.95 | -0.27 | -12.3 |
| **Total** | **20.72** | **20.72** | **-0.01** | **0.0** |

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

## Near-term expectations

In **3Q23**, annual **US** economic growth is expected to remain on a positive trajectory. The US economy is expected to experience continued strong support from private household consumption due to an ongoing tight labour market, as well as from steadily robust disposable income levels. In terms of oil demand, the US is expected to see a gradual decline of driving activity in the coming months, in line with the usual seasonal pattern. But air travel is expected to remain stable. Thereby, transportation fuels – gasoline and jet kerosene – are expected to continue to drive growth. Accordingly, in 3Q23, oil demand is expected to expand by 215 tb/d y-o-y. However, the continued weakening in manufacturing activity is likely to impact on demand for industrial fuels, particularly diesel

In **4Q23**, oil demand will be set to grow marginally by 51 tb/d y-o-y. During the quarter, mobility activity is expected to slow due to the winter weather, which will weigh on transportation fuels. On the back of the healthy air travel recovery, jet kerosene is expected to continue to drive oil demand.

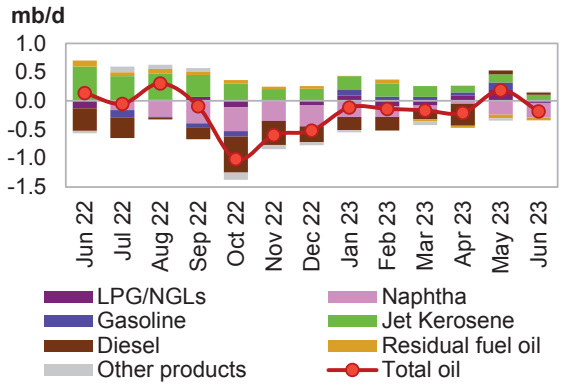
In **2024**, US economic growth is expected to remain positive. By 1Q24, economic activity is expected to improve and support the petrochemical sector and mobility levels, which is set to support oil demand growth of 135 tb/d. Transportation fuels and petrochemical feedstock, particularly LPG, are expected to be the main drivers of products demand. Overall, in 2024, the US is expected to see y-o-y growth of around 140 tb/d.

# OECD Europe

## Update on the latest developments

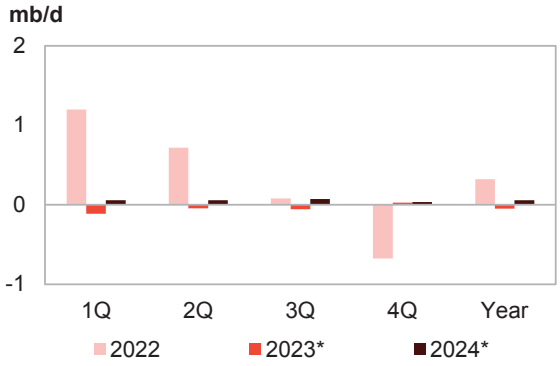
**Oil demand in OECD Europe** retracted y-o-y by 185 tb/d in **June**, down from the y-o-y growth of 183 tb/d in May. Oil products demand in the Eurozone has been on a generally declining trend for more than a year, affected by weak industrial sector performance and persistently high core inflation that stood at 6.8% y-o-y in June. The apparent weakness in industrial and petrochemical sector activity is impacting diesel and feedstock demand, whereas the services sector and personal consumption are supporting gasoline and jet/kerosene demand.

**Graph 4 - 3: OECD Europe's oil demand by main petroleum product category, y-o-y change**




*Sources: IEA, JODI, OPEC and national sources.*

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




*Note: * 2023 and 2024 = Forecast.*
*Source: OPEC.*

Naphtha demand recorded the largest y-o-y contraction of 256 tb/d in June, a further drop from the 243 tb/d y-o-y decline seen in May. European ethylene and derivatives have been under pressure due to low margins. Furthermore, the region's macroeconomic challenges, such as rising interest rates by the European Central Bank (ECB) to combat persistent high inflationary pressures, have weighed on growth for ethylene in the region. Residual fuels and LPG saw y-o-y declines of around 49 tb/d and 37 tb/d in June

On the positive side, diesel has shown recovery signs for two consecutive months after 11 months of general decline. In June, diesel witnessed y-o-y growth of 39 tb/d, although this was slightly below growth of 69 tb/d in May. Continued improvements in airline activity and driving activity supported transportation fuels. Accordingly, jet/kerosene grew by 94 tb/d y-o-y, albeit down from 141 tb/d recorded in May. Gasoline saw y-o-y growth of around 12 tb/d, but this was well below the 131 tb/d growth in the previous month. The 'other products' category saw a slight y-o-y increase of 12 tb/d, up from the 43 tb/d y-o-y decline the previous month.

## Near-term expectations

In **3Q23** and **4Q23**, economic growth in the region is projected to remain positive. Additionally, supply chain bottlenecks combined with sluggish manufacturing activity are expected to continue into the third quarter. These factors are set to weigh on oil demand leading to an expected y-o-y decline of 58 tb/d in 3Q23. In the 4Q23, however, oil demand is set to see a slight y-o-y uptick of 26 tb/d, mainly supported by jet fuel and gasoline, while diesel is set to remain weak.

In **2024**, the region's economic growth is projected to slightly improve, compared with the current year, with activity in the services sector expected to remain healthy. However, the ongoing geopolitical situation in Eastern Europe and supply chain bottlenecks are likely to continue to impact oil demand prospects in 1Q24. As a result, oil demand in 1Q24 is expected to rise by 57 tb/d y-o-y, with demand for air travel and driving mobility set to remain fairly stable for jet/kerosene and gasoline consumption. Overall, the region is expected to see y-o-y growth of 55 tb/d in 2024.

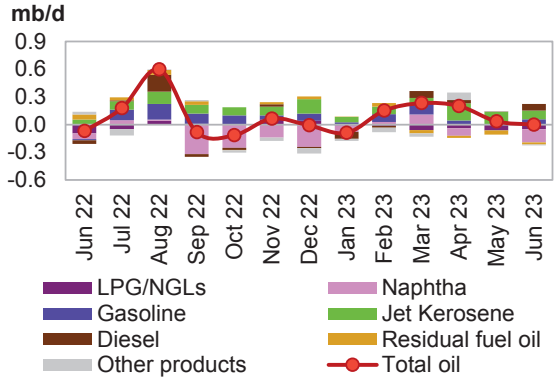
# OECD Asia Pacific

## Update on the latest developments

**Oil demand in OECD Asia Pacific** was broadly unchanged y-o-y in June, down from four months of uninterrupted y-o-y growth. Despite positive oil demand growth in Australia and South Korea, a large decline was recorded in Japan that subdued regional oil demand growth.

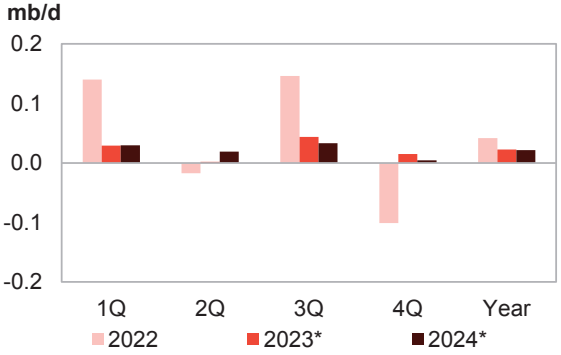
In Japan, the services sector PMI, which constitutes around two-thirds of the Japanese economy, retracted slightly to 54 points in June from 55.9 in May. The manufacturing PMI fell to 49.8 points in June, following 50.6 in May.

**Graph 4 - 5: OECD Asia Pacific's oil demand by main petroleum product category, y-o-y change**




*Sources: IEA, JODI, METI and OPEC.*

**Graph 4 - 6: OECD Asia Pacific's oil demand, y-o-y change**




*Note: * 2023 and 2024 = Forecast.*
*Source: OPEC.*

The Australian services PMI decelerated to 50.6 points in June, from 51.8 in May, but at this level it remained in expansionary territory. The manufacturing PMI, however, stayed in the contraction zone, albeit with an improvement from 48 points in May to 48.6 in June. According to the latest data from the Australian Bureau of Statistics (ABS), annual CPI inflation was 6.0 per cent in the 2Q23, lower than the 7.0 pp annual rise in 1Q23.

The South Korean manufacturing PMI in June stood at 47.8 points, slightly below the 48-point level it had been at for the previous three months. The consumer price index in South Korea increased 2.7% in June 2023 from a year ago, easing for the fifth consecutive month to its lowest level since September 2021, supporting the central bank's move to pause its tightening cycle earlier this year.

Airline activity in the OECD Asia Pacific region remains healthy, according to a report from IATA. Asia Pacific carriers saw a noticeable improvement in their load factors to 80.4%, an increase of 7.1 points compared to June 2022. It should be noted, however, that while the region's domestic RPKs were 8.0% above pre-pandemic levels in June, international RPKs were still 29.0% lower.

The continued weakening of petrochemical sector requirements in the region subdued demand for naphtha and LPG in June, with y-o-y declines of 143 tb/d and 50 tb/d, respectively. Similarly, residual fuels and the 'other products' category saw y-o-y declines of 23 tb/d and 8 tb/d, respectively.

On the positive side, jet kerosene led oil demand with a y-o-y increase of 95 tb/d. Diesel saw y-o-y growth of 71 tb/d, up from 4 tb/d seen the previous month. Gasoline was up y-o-y by 57 tb/d, an improvement from a marginal 2 tb/d annual decline seen in May.

## Near-term expectations

OECD Asia Pacific economic growth is projected to remain positive in 2023, albeit with variations among the region's countries. The services PMI in Japan was in the expansion zone in July and August, reaching levels of 58 and 56 points, respectively. However, both services and manufacturing PMIs in South Korea contracted. Furthermore, the region's relatively healthy economic activity, combined with improvements in air traffic, driving and petrochemical industry operations, are expected to support oil demand that is set to grow y-o-y by 44 tb/d in **3Q23**. However, by **4Q23**, the oil demand growth momentum is expected to ease, with the region seeing a y-o-y growth of 15 tb/d.

In **2024**, the economic growth rate of the region is expected to remain on a positive trajectory. In addition, air travel recovery and petrochemical sector requirements in the region is projected to support oil demand with an expected y-o-y expansion of 30 tb/d in 1Q24. Overall, in 2024, the region is expected to see y-o-y growth of 22 tb/d.

# Non-OECD

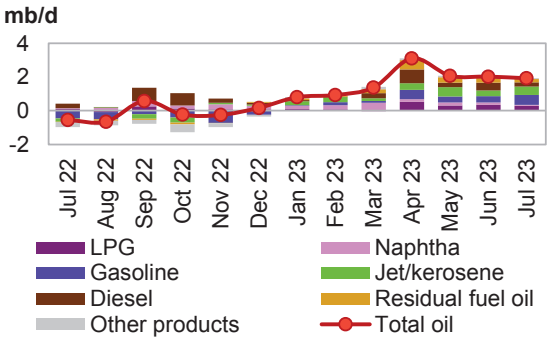
## China

### Update on the latest developments

Oil demand in China in July posted y-o-y growth of almost 2.0 mb/d, for the third consecutive month. Oil demand growth was mostly driven by transportation fuels amid steady driving activity, a continuing recovery in air travel and robust petrochemical feedstock requirements. Additionally, it must be noted that oil demand growth in July was supported by a weak baseline from a year earlier.

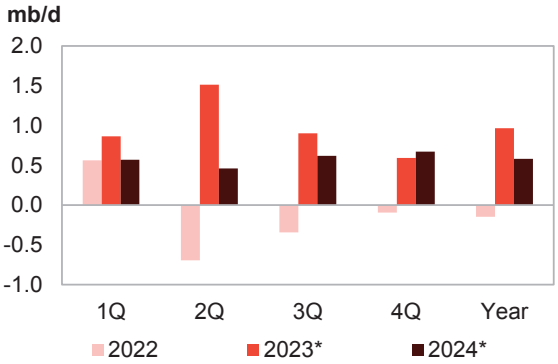
The annual inflation rate in China turned negative in July, following 0% y-o-y in June. China's June PMI for the services sector was at 54.1 points, following 53.9 in June. The manufacturing PMI retracted into contractionary territory to stand at 49.2, following 50.5 in June. Driving mobility continued to increase, with data from the Ministry of Transport showing that a total of 8.21 billion passenger trips were made in urban areas in July, a y-o-y expansion of 14.7%. Similarly, air travel activity remained healthy. A report from China's Civil Aviation Industry in June indicates that domestic passenger volumes in the country increased y-o-y by 131% and international passenger volumes by a staggering 2,067% y-o-y, due to the fact that international air travel was in lockdown a year ago.

**Graph 4 - 7: China's oil demand by main petroleum product category, y-o-y change**




*Sources: Chinese Petroleum Data Monthly, Chinese National Bureau of Statistics, JODI, Non-OECD Energy Statistics, Argus Global Markets, Argus China, and OPEC.*

**Graph 4 - 8: China's oil demand, y-o-y change**




*Note: * 2023 and 2024 = Forecast.*
*Source: OPEC.*

In terms of oil products in July, transportation fuels were the main drivers of demand growth. Gasoline posted y-o-y growth of 606 tb/d, compared to 385 tb/d, y-o-y growth in June. On the back of the steady air travel recovery, jet kerosene posted y-o-y growth of 487 tb/d, up from 327 tb/d y-o-y growth the previous month. Diesel grew by about 259 tb/d y-o-y, albeit down from 473 tb/d y-o-y growth in June. Healthy petrochemical feedstock requirements supported LPG, which posted y-o-y growth of 292 tb/d, slightly below the 342 tb/d y-o-y growth in June. Naphtha also witnessed a monthly deceleration to grow by 46 tb/d, down from 146 tb/d y-o-y growth in June. Finally, residual fuels saw y-o-y growth of 201 tb/d, slightly less than the 278 tb/d level of June, while the 'other products' category increased by 43 tb/d y-o-y, down from 82 tb/d growth the previous month.

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

| By product | Jul 22 | Jul 23 | Change Growth | Jul 23/Jul 22 % |
|---|---|---|---|---|
| **LPG** | 2.63 | 2.92 | 0.29 | 11.1 |
| **Naphtha** | 1.49 | 1.53 | 0.05 | 3.1 |
| **Gasoline** | 2.85 | 3.46 | 0.61 | 21.2 |
| **Jet/kerosene** | 0.38 | 0.86 | 0.49 | 129.7 |
| **Diesel** | 3.43 | 3.69 | 0.26 | 7.5 |
| **Fuel oil** | 0.83 | 1.03 | 0.20 | 24.2 |
| **Other products** | 2.47 | 2.52 | 0.04 | 1.8 |
| **Total** | **14.08** | **16.01** | **1.93** | **13.7** |

*Note: * Apparent oil demand. Totals may not add up due to independent rounding.*
*Sources: Argus Global Markets, China OGP (Xinhua News Agency), Facts Global Energy, JODI, National Bureau of Statistics China and OPEC.*

## Near-term expectations

China's economic growth is expected to remain firm in 2023. With inflation at almost zero, it seems likely that the central government, together with the People's Bank of China (PBOC), may become engaged in near-term stimulus measures that seek to boost consumption in support of economic recovery. This is particularly likely when considering that youth unemployment stood above the 20% level for the second consecutive month, at 20.8% in May. Oil demand in **3Q23** is expected to grow by 902 tb/d y-o-y and by 591 tb/d y-o-y in **4Q23**, slightly down from the strong y-o-y growth seen in the first half of the year. Overall, in 2023, oil demand in China is expected to grow by 0.97 mb/d.

In **2024**, China's economic growth momentum is expected to ease slightly. Continued healthy services sector activity, including leisure, travel and tourism, as well as a recovery in the manufacturing activity and petrochemical sector requirements are expected to support oil demand. Thereby, oil demand is forecast to see y-o-y growth of 571 tb/d in 1Q24. Jet fuel will again drive oil demand growth in this quarter, with millions of air passengers expected to support air travel activity for local and business travellers from and into China throughout the 40-day spring festival travel season. Light distillates are also set to continue rising, with the continued expansion of petrochemical industries. Increased mobility and construction activity will boost demand for gasoline and diesel. For the year, China is expected to see y-o-y growth of 580 tb/d.

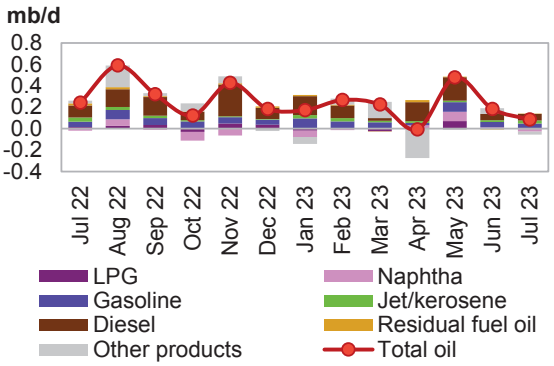
# India

## Update on the latest developments

**Oil demand in India** in **July** grew by 83 tb/d y-o-y, down from an annual increase of 184 tb/d in June. July's demand growth was affected by a comparison with a strong baseline from a year earlier, as well as heavy rains in some northern and north western states that partially affected economic activity.

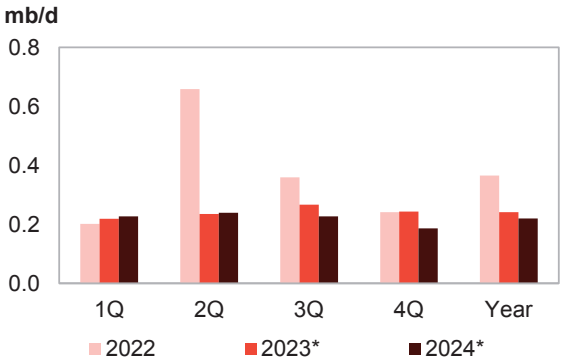
India's manufacturing PMI was at a high level of 57.7 in July, almost unchanged from 57.8 in June. The services PMI rose to 62.3, compared with 58.5 in June. India's annual consumer inflation rate has accelerated in recent months and reached 6.4% in July, on the back of surging food prices. At this level, the rate breaches the upper end of the Reserve Bank of India's 2%-6% tolerance band for the first time in five months.

**Graph 4 - 9:India's oil demand by main petroleum product category, y-o-y change**




*Sources: PPAC, JODI, Non-OECD Energy Statistics and OPEC.*

**Graph 4 - 10: India's oil demand, y-o-y change**




*Note: * 2023 and 2024 = Forecast.*
*Source: OPEC.*

According to the Indian automotive content creator, autopunditz.com, India's car sales increased by over 3.2% in July when compared to the same period last year. It was also up 7.4% on a m-o-m comparison with June 2023.

In terms of air travel, a report from Travel World.com, noted that domestic air passenger traffic in July was estimated to be 2.2% lower than in June 2023. However, the y-o-y growth was at 26%. Domestic passenger traffic in July 2023 was higher by 3% compared to pre-COVID levels.

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

| By product | Jul 22 | Jul 23 | Change Growth | Jul 23/Jul 22 % |
|---|---|---|---|---|
| LPG | 0.93 | 0.92 | -0.01 | -0.6 |
| Naphtha | 0.32 | 0.30 | -0.02 | -7.1 |
| Gasoline | 0.79 | 0.84 | 0.05 | 6.2 |
| Jet/kerosene | 0.18 | 0.20 | 0.03 | 16.0 |
| Diesel | 1.62 | 1.69 | 0.06 | 3.8 |
| Fuel oil | 0.16 | 0.16 | 0.00 | 1.5 |
| Other products | 0.91 | 0.88 | -0.03 | -3.2 |
| **Total** | **4.91** | **4.99** | **0.08** | **1.7** |

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

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

In terms of oil products in July, diesel led y-o-y oil demand growth at 61 tb/d, slightly higher than the 59 tb/d y-o-y growth seen in June. Gasoline grew y-o-y by 49 tb/d, down from 52 tb/d in June. On the back of the steady air travel recovery, jet/kerosene saw y-o-y growth of 28 tb/d, up from 15 tb/d in June. In terms of petrochemical feedstock, LPG demand growth softened, y-o-y by 5 tb/d in July, while naphtha saw a y-o-y decline of 23 tb/d and the 'other products' category posted an annual decline of 29 tb/d. Finally residual fuel demand was unchanged y-o-y in July.

## Near-term expectations

Looking forward, with steady and healthy economic activity and the ongoing air travel recovery, India's oil demand in **3Q23** is projected to rise y-o-y by around 270 tb/d. The government's proposed increase in capital spending for construction and manufacturing is expected to boost the economic activity momentum. These factors, combined with a steady rise in airline activity, are set to support healthy oil demand growth. Transportation fuels – gasoline and jet fuel – are expected to be the main demand growth drivers in this quarter. However, diesel demand is anticipated to be affected by the impact of the monsoon season from July to September.

In **4Q23**, oil demand is expected to decelerate slightly, but is forecast to show y-o-y growth of 243 tb/d, with transportation fuels – notably gasoline, diesel for transportation, and jet/kerosene – driving the growth.

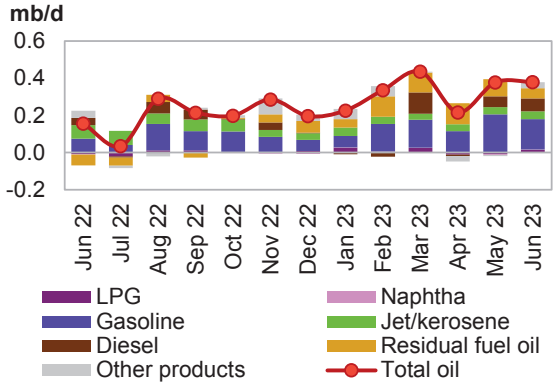
In **2024**, India's oil demand is expected to expand on average by 227 tb/d y-o-y in 1Q24, on the back of vigorous economic growth at 5.9%. Healthy economic growth will support mobility and enable steady demand for distillates in the manufacturing sector. For the year, India is expected to see an average y-o-y oil demand growth of 220 tb/d.

# Latin America

## Update on the latest developments

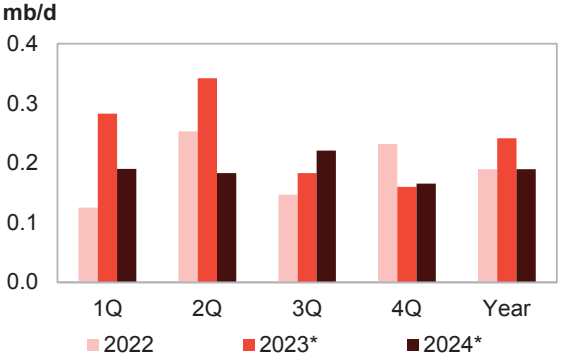
**Oil demand in Latin America** increased y-o-y by 379 tb/d in **June**, similar to the 377 tb/d y-o-y growth seen in May. Brazil and Venezuela continue to be the main drivers of oil demand growth in the region.

**Graph 4 - 11: Latin America's oil demand by main petroleum product category, y-o-y change**




*Sources: JODI, Non-OECD Energy Statistics and OPEC.*

**Graph 4 - 12: Latin America's oil demand, y-o-y change**




*Note: * 2023 and 2024 = Forecast.*
*Source: OPEC.*

The annual inflation rate in Brazil receded to 3.16% in June 2023 from 3.94% in May. This is the lowest level since September 2020 and was broadly in line with market forecasts. The services PMI in Brazil stood at 53.03 in June. However, the manufacturing PMI index in June at 46.6 points, still below the 50-point growth-indicating level, to stand, and down from 47.1 in May.

In terms of domestic RPKs, Latin American carriers continued to outperform their pre-pandemic levels by around 6% in June. Notably, passenger traffic in Brazil in June was 8.5% higher than pre-COVID levels, with an expansion of 13.3% y-o-y.

For the sixth consecutive month, gasoline remained the main oil demand driver in the region, supported by steady mobility. Gasoline grew y-o-y by 163 tb/d, although this was a decline from the 206 tb/d y-o-y growth in May. Diesel saw 70 tb/d y-o-y growth in June, up from 57 tb/d y-o-y growth in May. Residual fuels and the 'other products' category recorded y-o-y growth in June of 55 tb/d and 33 tb/d, respectively.

On the back of steady air travel recovery, jet kerosene saw y-o-y growth of 42 tb/d, similar to the 39 tb/d y-o-y growth in May. In terms of petrochemical feedstock, LPG saw an improvement of 15 tb/d, from an annual decline of 8 tb/d the previous month. Finally, demand for naphtha saw an uptick of 2 tb/d y-o-y, from an annual decline of 5 tb/d in May.

### Near-term expectations

The region's oil demand is expected to remain relatively healthy in 2H23 amid projected healthy economic growth and a steady air travel recovery. Positively, improved services PMI in the region's big consuming countries, combined with rising consumer and business confidence, are anticipated to support oil demand in the region. Latin America's oil demand is projected to grow y-o-y by 183 tb/d in **3Q23** and by 160 tb/d in **4Q23**.

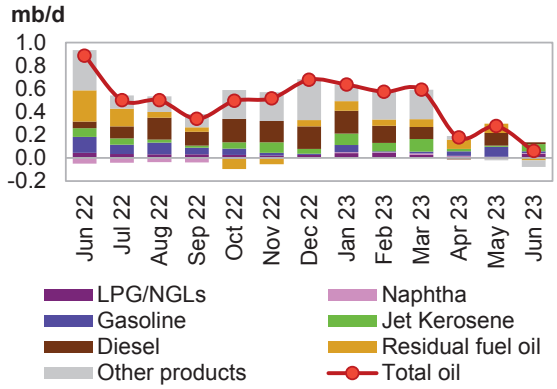
In **2024**, oil demand growth is forecast at 190 tb/d in 1Q24, amid healthy economic growth, combined with expected improvements in air travel. On average, the region is expected to grow by 190 tb/d y-o-y. The outlook for oil demand growth sees transportation fuels expand the most, followed by diesel and petrochemical feedstock.

## Middle East

### Update on the latest developments

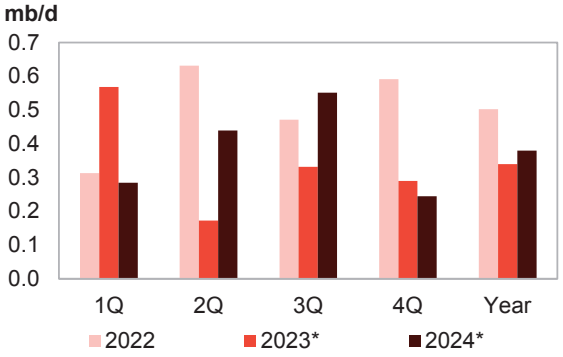
**Oil demand in the Middle East** grew y-o-y by 60 tb/d in June, down from 275 tb/d y-o-y growth in May. The demand growth was affected by a strong baseline comparison with same period last year, as well as a large decline in Saudi Arabia's oil demand in June.

**Graph 4 - 13: Middle East's oil demand by main petroleum product category, y-o-y change**




*Sources: JODI, Non-OECD Energy Statistics and OPEC.*

**Graph 4 - 14: Middle East's oil demand, y-o-y change**




*Note: * 2023 and 2024 = Forecast.*
*Source: OPEC.*

The economic activity in the two largest economies of the region – Saudia Arabia and the UAE – has been healthy and supportive of the region's oil demand. The Saudi Arabian economy is estimated to have expanded by 3.8% y-o-y in 1Q23, with indications of a 5.4% rise in non-oil activities. Government expenditures in the 1Q23 remained strong and rose by 16.2% y-o-y. Similarly, the composite purchasing managers' indices (PMIs) for June stood at 59.5, up from 58.5 in May.

The UAE's economy remains robust, with constant contributions from the non-oil sector, especially from tourism, leisure and real estate. The country's composite PMI rose again in June to stand at 56.9 points, up from 55.5 in May.

In terms of air travel, the IATA reported that Middle East carriers have made remarkable progress in recovering from the pandemic. Middle Eastern carriers experienced a significant surge in international traffic growth in June, although the international RPKs for this region's carriers was still 4.2% below pre-pandemic levels.

The contributions of oil products to Middle East demand in June show that jet/kerosene was the main driver, up by 61 tb/d y-o-y, which was higher than the 10 tb/d y-o-y growth seen the previous month. LPG saw y-o-y growth of 36 tb/d, from 11 tb/d, y-o-y growth in May. Gasoline recorded y-o-y growth of 17 tb/d, down from 87 tb/d in May. Residual fuels saw a y-o-y decline of 20 tb/d, down from the 81 tb/d y-o-y growth in May. The 'other products' category softened further by 56 tb/d y-o-y, from the 13 tb/d annual decline recorded the previous month.

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

| By product | Jul 22 | Jul 23 | Change Growth | Jul 23/Jul 22 % |
|---|---|---|---|---|
| **LPG** | 0.05 | 0.05 | 0.00 | 9.8 |
| **Gasoline** | 0.49 | 0.49 | 0.00 | -0.1 |
| **Jet/kerosene** | 0.07 | 0.11 | 0.04 | 59.8 |
| **Diesel** | 0.60 | 0.62 | 0.02 | 3.5 |
| **Fuel oil** | 0.65 | 0.66 | 0.01 | 1.0 |
| **Other products** | 0.75 | 0.66 | -0.09 | -11.7 |
| **Total** | **2.60** | **2.59** | **-0.02** | **-0.6** |

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

*Sources: JODI and OPEC.*

## Near-term expectations

Ongoing steady economic activity, combined with strong composite PMIs, continues to support the major consuming countries in the Middle East. In addition, the hot summer months are expected to boost electricity demand due to requirements for air conditioning. The strong recovery in international traffic also continues to boost jet/kerosene demand in the region. Accordingly, oil demand in the region is projected to grow by 332 tb/d y-o-y in **3Q23** and by 290 tb/d in **4Q23**.

In **2024**, the region's economic growth momentum is expected to be stable and support consumer confidence, which will increase regional demand for social services and consumer goods. Gasoline, transportation diesel and jet kerosene are expected to lead oil demand growth. Gasoil/diesel and fuel oil demand for power generation are also set to play a significant role in demand.

In 1Q24, the region is anticipated to see y-o-y growth of 285 tb/d. Overall, in 2024, the Middle East is expected to see y-o-y growth of 380 tb/d. The bulk of demand growth is expected to come from Iraq and Saudi Arabia.

# World Oil Supply

The non-OPEC liquids production in 2023 is expected to grow by 1.6 mb/d y-o-y, reaching 67.4 mb/d. Upward revisions in Russia, the US and Brazil more than offset downward revisions to OECD Europe, Canada and Africa.

Slow and steady growth is currently expected for US shale oil production throughout the year. Accordingly, US liquids supply growth for 2023 is forecast at 1.2 mb/d. The main growth drivers for 2023 are anticipated to be the US, Brazil, Norway, Kazakhstan, Guyana and China. Nonetheless, there uncertainties related to US shale oil output potential and unplanned maintenance across the rest of the year.

Non-OPEC liquids production in 2024 is forecast to grow by 1.4 mb/d to average 68.8 mb/d (including 50 tb/d in processing gains), broadly unchanged from the previous month. The OECD liquids supply is forecast to increase by 0.9 mb/d next year, while non-OECD liquids supply is seen growing by 0.4 mb/d. The main drivers for the expected growth are the US, Canada, Guyana, Brazil, Norway and Kazakhstan, with the majority of the upsurge seen coming from existing project ramp-ups. At the same time, production is forecast to see the largest declines in Mexico and Malaysia.

OPEC NGLs and non-conventional liquids production in 2023 is forecast to grow by around 50 tb/d to average 5.4 mb/d. For 2024, it is forecast to grow by 65 tb/d to average 5.5 mb/d. OPEC-13 crude oil production in August increased by 113 tb/d m-o-m to average 27.45 mb/d, according to available secondary sources.

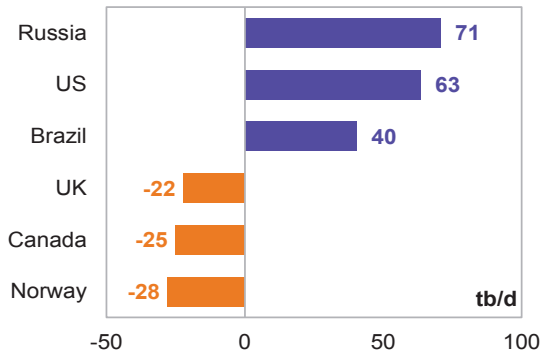
Non-OPEC liquids production in August, including OPEC NGLs, is estimated to have dropped by 0.1 mb/d m-o-m to average 73.3 mb/d. This is up by 2.3 mb/d y-o-y. As a result, preliminary data indicate that August's global oil supply remained unchanged m-o-m to average 100.7 mb/d, up by 0.16 mb/d y-o-y.

**Non-OPEC liquids production in 2023** is forecast to expand by 1.6 mb/d. This is up by around 70 tb/d from the previous month's growth assessment, mainly due to upward revisions in Russia and the US. It is worth noting that this takes into account all announced prodcution adjustments of the countries in the DoC to the end of 2023.

Overall **OECD supply growth** expectations for 2023 remained largely unchanged. While OECD Europe saw a downward revision due to Norway and the UK, OECD Americas was revised up owing to the US and Mexico. OECD Asia Pacific's output growth expectation remained unchanged.

The **non-OECD supply growth** projection for 2023 has been revised up by around 70 tb/d. It is now expected to grow by about 60 tb/d y-o-y.

**Graph 5 - 1: Major revisions to annual supply change forecast in 2023*, MOMR Sep 23/Aug 23**

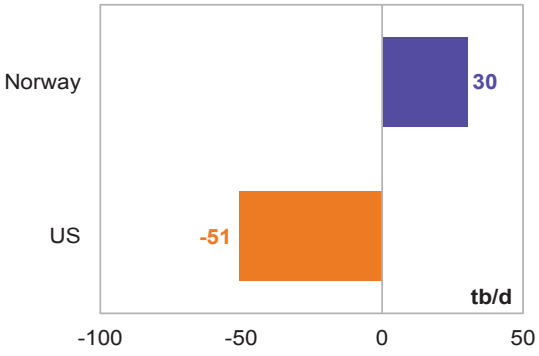



*Note: * 2023 = Forecast. Source: OPEC.*

**Non-OPEC liquids production** growth in **2024** remained broadly unchanged compared with the previous month's assessment.

The upward revision to the supply forecast of Norway and a few other countries was entirely offset by a downward revision to US supply.

**Graph 5 - 2: Major revisions to annual supply change forecast in 2024*, MOMR Sep 23/Aug 23**

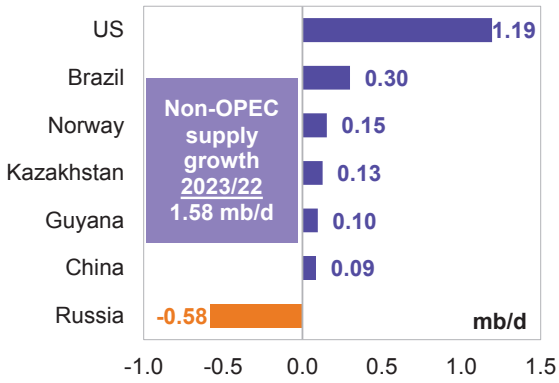



*Note: * 2024 = Forecast. Source: OPEC.*

# Key drivers of growth and decline

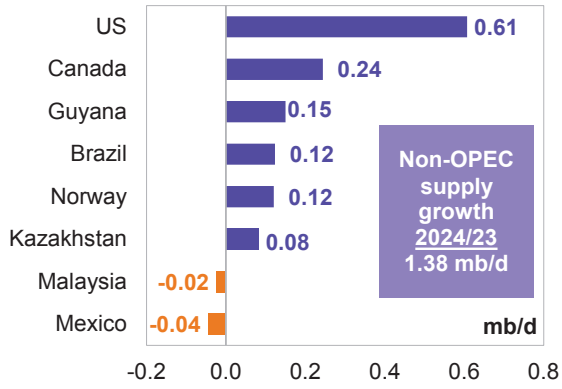
The **key drivers of non-OPEC liquids supply growth in 2023** are projected to be the US, Brazil, Norway, Kazakhstan, Guyana and China, while oil production is projected to see the largest decline in Russia.

**Graph 5 - 3: Annual liquids production changes y-o-y for selected countries in 2023***




*Note: * 2023 = Forecast. Source: OPEC.*

**Graph 5 - 4: Annual liquids production changes y-o-y for selected countries in 2024***




*Note: * 2024 = Forecast. Source: OPEC.*

For **2024**, the key drivers of non-OPEC supply growth are forecast to be the US, Canada, Guyana, Brazil, Norway and Kazakhstan, while oil production is projected to see the largest declines in Mexico and Malaysia.

# Non-OPEC liquids production in 2023 and 2024

**Table 5 - 1: Non-OPEC liquids production in 2023*, mb/d**

| Non-OPEC liquids production | 2022 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | 2023 | Change 2023/22 Growth | Change 2023/22 % |
|---|---|---|---|---|---|---|---|---|
| **Americas** | 26.92 | 27.90 | 28.00 | 28.53 | 28.52 | 28.24 | 1.33 | 4.93 |
| *of which US* | *19.28* | *20.10* | *20.66* | *20.64* | *20.50* | *20.48* | *1.19* | *6.19* |
| **Europe** | 3.58 | 3.69 | 3.64 | 3.65 | 3.87 | 3.71 | 0.13 | 3.70 |
| **Asia Pacific** | 0.48 | 0.45 | 0.45 | 0.48 | 0.47 | 0.46 | -0.01 | -2.83 |
| **Total OECD** | **30.97** | **32.04** | **32.09** | **32.67** | **32.87** | **32.42** | **1.45** | **4.67** |
| **China** | 4.48 | 4.63 | 4.63 | 4.50 | 4.50 | 4.56 | 0.09 | 1.91 |
| **India** | 0.77 | 0.76 | 0.78 | 0.79 | 0.78 | 0.78 | 0.00 | 0.58 |
| **Other Asia** | 2.30 | 2.31 | 2.26 | 2.31 | 2.37 | 2.31 | 0.01 | 0.47 |
| **Latin America** | 6.34 | 6.69 | 6.76 | 6.88 | 6.80 | 6.78 | 0.45 | 7.05 |
| **Middle East** | 3.29 | 3.27 | 3.29 | 3.25 | 3.30 | 3.28 | -0.01 | -0.32 |
| **Africa** | 1.29 | 1.24 | 1.27 | 1.28 | 1.30 | 1.27 | -0.02 | -1.65 |
| **Russia** | 11.03 | 11.19 | 10.85 | 10.22 | 9.57 | 10.45 | -0.58 | -5.27 |
| **Other Eurasia** | 2.83 | 3.00 | 2.93 | 2.94 | 2.98 | 2.96 | 0.13 | 4.61 |
| **Other Europe** | 0.11 | 0.11 | 0.10 | 0.10 | 0.10 | 0.10 | 0.00 | -2.73 |
| **Total Non-OECD** | **32.44** | **33.21** | **32.87** | **32.26** | **31.70** | **32.50** | **0.06** | **0.19** |
| **Total Non-OPEC production** | 63.42 | 65.25 | 64.96 | 64.93 | 64.57 | 64.92 | 1.51 | 2.38 |
| **Processing gains** | 2.40 | 2.47 | 2.47 | 2.47 | 2.47 | 2.47 | 0.07 | 2.96 |
| **Total Non-OPEC liquids production** | **65.81** | **67.72** | **67.43** | **67.39** | **67.04** | **67.39** | **1.58** | **2.40** |
| **Previous estimate** | 65.76 | 67.70 | 67.39 | 66.96 | 67.03 | 67.27 | 1.51 | 2.30 |
| **Revision** | 0.06 | 0.02 | 0.04 | 0.43 | 0.01 | 0.13 | 0.07 | 0.10 |

*Note: * 2023 = Forecast. Totals may not add up due to independent rounding.*

*Source: OPEC.*

**Table 5 - 2: Non-OPEC liquids production in 2024*, mb/d**

| Non-OPEC liquids production | 2023 | 1Q24 | 2Q24 | 3Q24 | 4Q24 | 2024 | Change 2024/23 Growth | Change 2024/23 % |
|---|---|---|---|---|---|---|---|---|
| Americas | 28.24 | 28.71 | 28.75 | 29.21 | 29.52 | 29.05 | 0.81 | 2.85 |
| *of which US* | *20.48* | *20.74* | *20.96* | *21.23* | *21.39* | *21.08* | *0.61* | *2.96* |
| Europe | 3.71 | 3.92 | 3.80 | 3.75 | 3.89 | 3.84 | 0.13 | 3.39 |
| Asia Pacific | 0.46 | 0.47 | 0.44 | 0.45 | 0.44 | 0.45 | -0.01 | -2.87 |
| **Total OECD** | **32.42** | **33.10** | **32.99** | **33.41** | **33.85** | **33.34** | **0.92** | **2.83** |
| China | 4.56 | 4.58 | 4.57 | 4.54 | 4.54 | 4.56 | -0.01 | -0.11 |
| India | 0.78 | 0.79 | 0.79 | 0.79 | 0.78 | 0.79 | 0.01 | 1.69 |
| Other Asia | 2.31 | 2.29 | 2.27 | 2.25 | 2.25 | 2.26 | -0.05 | -2.18 |
| Latin America | 6.78 | 6.95 | 7.02 | 7.15 | 7.23 | 7.09 | 0.31 | 4.50 |
| Middle East | 3.28 | 3.33 | 3.32 | 3.31 | 3.31 | 3.32 | 0.04 | 1.30 |
| Africa | 1.27 | 1.28 | 1.31 | 1.34 | 1.35 | 1.32 | 0.05 | 3.92 |
| Russia | 10.45 | 10.27 | 10.39 | 10.52 | 10.63 | 10.45 | 0.00 | -0.02 |
| Other Eurasia | 2.96 | 3.02 | 3.02 | 3.00 | 3.04 | 3.02 | 0.06 | 2.10 |
| Other Europe | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.00 | -1.15 |
| **Total Non-OECD** | **32.50** | **32.63** | **32.80** | **33.00** | **33.24** | **32.92** | **0.41** | **1.28** |
| **Total Non-OPEC production** | 64.92 | 65.73 | 65.79 | 66.41 | 67.09 | 66.26 | 1.33 | 2.05 |
| **Processing gains** | 2.47 | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 | 0.05 | 2.03 |
| **Total Non-OPEC liquids production** | **67.39** | **68.25** | **68.31** | **68.93** | **69.61** | **68.78** | **1.38** | **2.05** |
| **Previous estimate** | 67.27 | 68.14 | 68.16 | 68.84 | 69.48 | 68.66 | 1.39 | 2.06 |
| **Revision** | 0.13 | 0.11 | 0.15 | 0.09 | 0.13 | 0.12 | -0.01 | -0.01 |

*Note: * 2024 = Forecast. Totals may not add up due to independent rounding.*

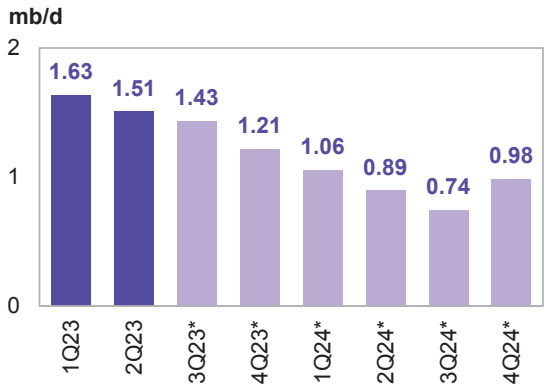
*Source: OPEC.*

# OECD

**OECD liquids production in 2023** is forecast to expand by 1.4 mb/d to average 32.4 mb/d. Growth remained unchanged m-o-m following an upward revision in OECD Americas and a downward adjustment in OECD Europe.

Growth is set to be led by OECD Americas, which is forecast to expand by 1.3 mb/d to an average of 28.2 mb/d. This was revised up by around 50 tb/d compared with last month's assessment. Yearly liquids production in OECD Europe is anticipated to grow by 0.1 mb/d to average 3.7 mb/d. This is down by 45 tb/d compared with the previous month. OECD Asia Pacific is expected to drop by around 10 tb/d to an average of 0.5 mb/d.

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




*Note: * 3Q23-4Q24 = Forecast. Source: OPEC.*

For **2024**, OECD oil production is likely to grow by 0.9 mb/d to an average of 33.3 mb/d. Growth will once again be led by OECD Americas, with an expected increase of 0.8 mb/d to an average of 29.0 mb/d. Yearly oil production in OECD Europe is anticipated to grow by 0.1 mb/d to average 3.8 mb/d, while OECD Asia Pacific is expected to decline by 13 tb/d y-o-y to average 0.5 mb/d.

# OECD Americas

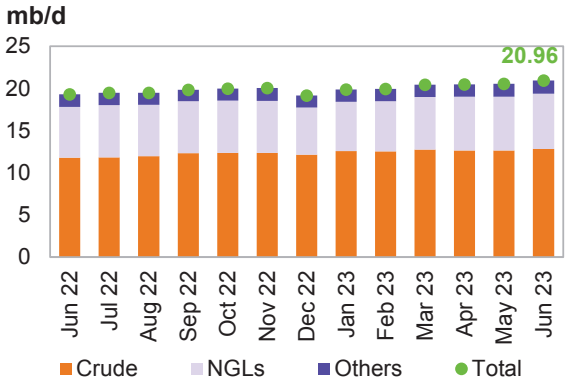
## US

**US liquids production** in **June** jumped by 0.4 mb/d m-o-m to an average of 21.0 mb/d, the new highest level on record. This was up by 1.7 mb/d compared with June 2022.

**Crude oil and condensate production** rose by 207 tb/d m-o-m to average 12.8 mb/d in **June**. This was up by 1.0 mb/d y-o-y.

In terms of **crude and condensate production breakdown by region (PADDs)**, production increased mainly on the US Gulf Coast (USGC), where it rose by 169 tb/d to average 9.3 mb/d. Production in the Midwest and Rocky Mountain regions rose by around 30 tb/d and 11 tb/d, respectively. Output on the East and West Coasts remained broadly unchanged m-o-m.
Production growth in the main regions was primarily driven by a strong recovery in Texas and Gulf of Mexico (GoM) producing fields, while output in onshore New Mexico declined.

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




*Sources: EIA and OPEC.*

**NGL production** was up by 151 tb/d m-o-m to average 6.5 mb/d in June. This was higher y-o-y by 0.5 mb/d. According to the US Department of Energy (DoE), the production of **non-conventional liquids** (mainly ethanol) rose by 92 tb/d to average 1.6 mb/d. Preliminary estimates see non-conventional liquids averaging around 1.6 mb/d in July, largely unchanged from June.

**GoM production** rose by 147 tb/d m-o-m to average 1.9 mb/d in June, following new project ramp-ups. Normal production was seen in most Gulf Coast offshore platforms following recent planned maintenance. In the **onshore Lower 48**, crude and condensate production increased by 67 tb/d m-o-m to average 10.6 mb/d in June.

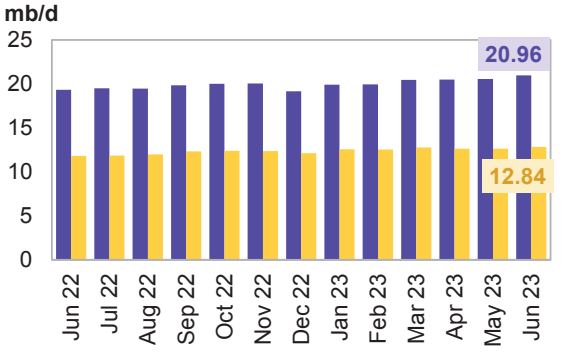
**Table 5 - 3: US crude oil production by selected state and region, tb/d**

| State | Jun 22 | May 23 | Jun 23 | Change m-o-m | Change y-o-y |
|---|---|---|---|---|---|
| Texas | 4,975 | 5,460 | 5,518 | *58* | *543* |
| New Mexico | 1,554 | 1,801 | 1,764 | *-37* | *210* |
| Gulf of Mexico (GOM) | 1,735 | 1,706 | 1,853 | *147* | *118* |
| North Dakota | 1,087 | 1,118 | 1,155 | *37* | *68* |
| Colorado | 433 | 454 | 462 | *8* | *29* |
| Oklahoma | 419 | 444 | 440 | *-4* | *21* |
| Alaska | 419 | 430 | 423 | *-7* | *4* |
| **Total** | **11,800** | **12,637** | **12,844** | ***207*** | ***1,044*** |

*Sources: EIA and OPEC.*

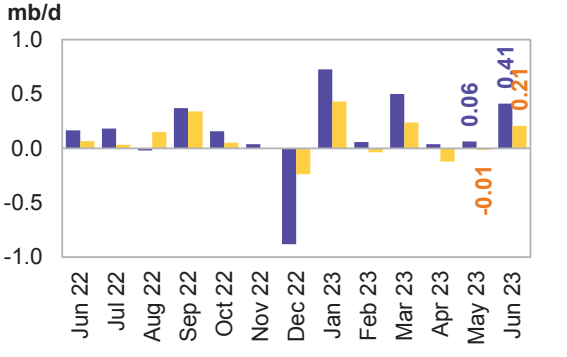
Looking at **individual states**, New Mexico's oil production fell by 37 tb/d to average 1.8 mb/d, which is 210 tb/d higher than a year ago. Production from Texas was up by 58 tb/d to average 5.5 mb/d, which is 543 tb/d higher than a year ago. In the Midwest, North Dakota's production rose by 37 tb/d m-o-m to an average of 1.2 mb/d, up by 68 tb/d y-o-y. Oklahoma's production was down by a minor 4 tb/d m-o-m to average 0.4 mb/d. Production in Alaska and Colorado remained largely unchanged.

**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**



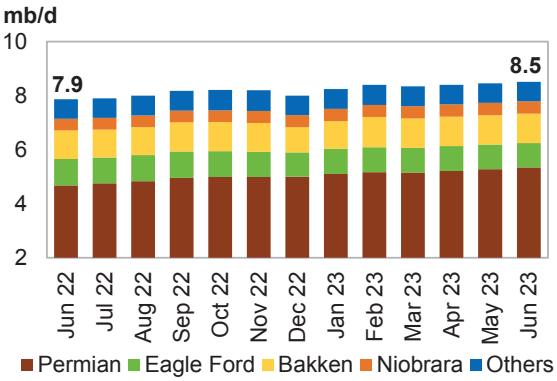

*Sources: EIA and OPEC.*

**US tight crude output** in **June** is estimated to have risen by 55 tb/d m-o-m to average 8.5 mb/d, according to the latest estimate from the US Energy Information Administration (EIA). This was 0.6 mb/d higher than in the same month last year.

The m-o-m increase from shale and tight formations using horizontal wells came mainly from Permian shale production in Texas, where output rose by 64 tb/d to an average of 5.3 mb/d. This was up y-o-y by 666 tb/d.

In North Dakota, Bakken shale oil output remained largely unchanged m-o-m to average 1.1 mb/d, up by 33 tb/d y-o-y. Tight crude output at Eagle Ford in Texas dropped by a minor 4 tb/d to average 0.9 mb/d, down 75 tb/d y-o-y. Production in Niobrara-Codell in Colorado and Wyoming was unchanged at an average of 451 tb/d.

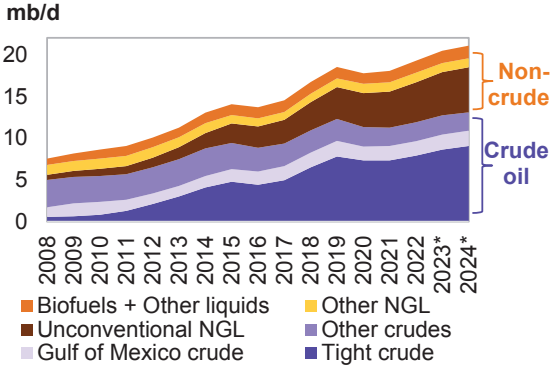
**Graph 5 - 9: US tight crude output breakdown**




*Sources: EIA and OPEC.*

**US liquids production in 2023**, excluding processing gains, is forecast to expand y-o-y by 1.2 mb/d to average 20.5 mb/d. This is up by 63 tb/d compared with the previous assessment, due to higher-than-expected output in previous months. Despite declining drilling activity since the start of this year, well productivity has improved. In addition, it is assumed there will be fewer supply chain/logistical issues in major prolific shale sites for the remainder of 2023. Given a sound level of oil field drilling and well completions, **crude oil and condensate** output is anticipated to increase y-o-y by 0.8 mb/d to average 12.7 mb/d. Average tight crude output in 2023 is forecast at 8.6 mb/d, up y-o-y by 0.7 mb/d. At the same time, NGL production and non-conventional liquids, particularly ethanol, are forecast to increase y-o-y by 0.3 mb/d and 40 tb/d, to average 6.3 mb/d and 1.5 mb/d, respectively.

**Graph 5 - 10: US liquids supply developments by component**




*Note: * 2023 and 2024 = Forecast.*
*Source: OPEC.*

**US liquids production in 2024**, excluding processing gains, is expected to grow y-o-y by 0.6 mb/d to average 21.1 mb/d, assuming a modest level of drilling activity and less supply chain issues at the prolific Permian, Bakken and Eagle Ford shale sites. Crude oil output is anticipated to jump by 0.4 mb/d y-o-y to average 13.1 mb/d. At the same time, NGLs production and that of non-conventional liquids, particularly ethanol, are projected to increase by 0.2 mb/d and 30 tb/d y-o-y to average 6.5 mb/d and 1.5 mb/d, respectively. Average tight crude output in 2024 is expected to reach 9.1 mb/d, up by 0.4 mb/d.

The 2024 forecast assumes ongoing capital discipline and less inflationary pressure, as well as moderating supply chain issues and oil field service constraints (labour and equipment).

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

| US liquids | 2022 | Change 2022/21 | 2023* | Change 2023/22 | 2024* | Change 2024/23 |
|---|---|---|---|---|---|---|
| Tight crude | 7.91 | 0.56 | 8.62 | 0.72 | 9.07 | 0.44 |
| Gulf of Mexico crude | 1.73 | 0.02 | 1.82 | 0.09 | 1.84 | 0.02 |
| Conventional crude oil | 2.27 | 0.06 | 2.28 | 0.01 | 2.19 | -0.10 |
| **Total crude** | **11.91** | **0.64** | **12.73** | **0.81** | **13.09** | **0.37** |
| Unconventional NGLs | 4.78 | 0.47 | 5.17 | 0.39 | 5.40 | 0.24 |
| Conventional NGLs | 1.15 | 0.04 | 1.10 | -0.05 | 1.07 | -0.03 |
| **Total NGLs** | **5.93** | **0.51** | **6.27** | **0.33** | **6.48** | **0.21** |
| Biofuels + Other liquids | 1.44 | 0.08 | 1.48 | 0.04 | 1.52 | 0.03 |
| **US total supply** | **19.28** | **1.23** | **20.48** | **1.19** | **21.08** | **0.61** |

*Note: * 2023 and 2024 = Forecast.*

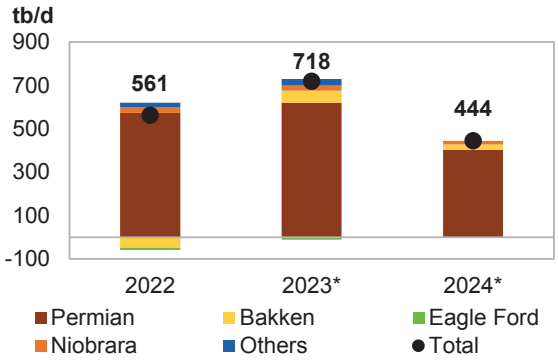
*Sources: EIA, OPEC and Rystad Energy.*

**US tight crude production** in the **Permian** in 2023 is expected to increase y-o-y by 0.6 mb/d to 5.4 mb/d. It is forecast to grow y-o-y by 0.4 mb/d to average 5.8 mb/d in 2024.

In **North Dakota**, **Bakken** shale production is still expected to remain below the pre-pandemic average of 1.4 mb/d. In 2023, growth is forecast at 55 tb/d to an average of 1.1 mb/d. Growth of just 25 tb/d is anticipated for 2024, to average 1.1 mb/d, demonstrating signs of maturity in the basin.

The **Eagle Ford** in Texas saw output of 1.2 mb/d in 2019, followed by declines from 2020 to 2022. With an expected decline of around 10 tb/d for 2023, output rests at an average of 0.94 mb/d. At the same time, basically no growth is expected for 2024.

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




*Note: * 2023 and 2024 = Forecast.*
*Sources: EIA and OPEC.*

**Niobrara's** production is expected to have grown y-o-y by 23 tb/d in 2023 to average 460 tb/d. It is also forecast to increase by 17 tb/d in 2024 to average 477 tb/d. With a moderate pace of drilling and completion activities, production in other tight plays is expected to show an increase of 30 tb/d in 2023, then remain steady in 2024.

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

| US tight oil | 2022 | Change 2021/20 | 2023* | Change 2023/22 | 2024* | Change 2024/23 |
|---|---|---|---|---|---|---|
| Permian tight | 4.76 | 0.57 | 5.38 | 0.62 | 5.79 | 0.40 |
| Bakken shale | 1.03 | -0.05 | 1.09 | 0.06 | 1.11 | 0.03 |
| Eagle Ford shale | 0.95 | -0.01 | 0.94 | -0.01 | 0.94 | 0.00 |
| Niobrara shale | 0.44 | 0.02 | 0.46 | 0.02 | 0.48 | 0.02 |
| Other tight plays | 0.72 | 0.02 | 0.75 | 0.03 | 0.75 | 0.00 |
| **Total** | **7.91** | **0.56** | **8.62** | **0.72** | **9.07** | **0.44** |

*Note: * 2023 and 2024 = Forecast.*

*Source: OPEC.*

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

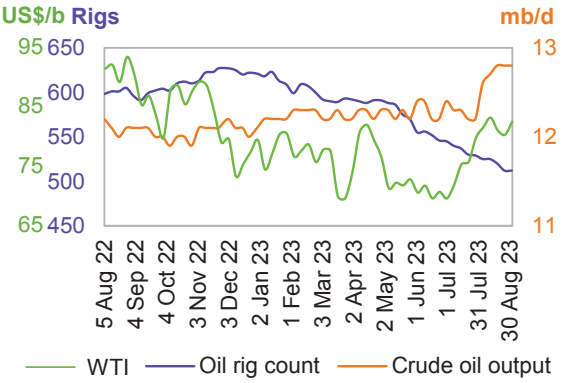
Total **active US drilling rigs** in the week ending 1 September 2023 fell by 1 to 631, according to Baker Hughes. This was down by 129 rigs compared with a year ago. The number of active offshore rigs rose by one w-o-w to 17. This was higher by one compared with the same month a year earlier. Onshore oil and gas rigs were lower w-o-w by two to stand at 611, with three rigs in inland waters. This is down by 130 rigs y-o-y.

The **US horizontal rig count** fell w-o-w by one to 566, compared with 695 horizontal rigs a year ago. The number of drilling rigs for oil remained unchanged w-o-w at 512, while gas-drilling rigs fell w-o-w by one to 114.

The Permian's rig count fell by one w-o-w to 319. Rig counts dropped by two in Eagle Ford to 50. The rig count remained unchanged w-o-w in Williston at 33, while it rose by one to 17 and 15 in Cana Woodford and DJ-Niobrara, respectively.

No operating oil or gas rig has been reported in the Barnett Basin since 21 July.

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



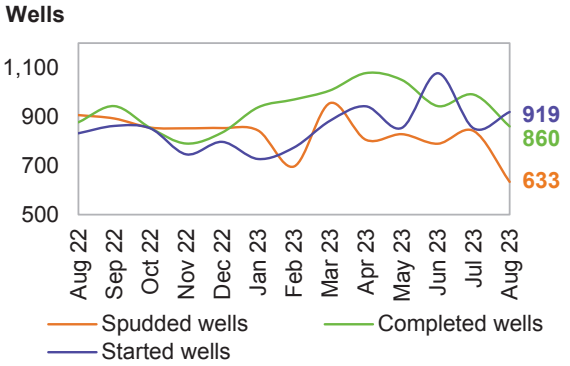

*Sources: Baker Hughes, EIA and OPEC.*

**Drilling and completion (D&C) activities** for spudded, completed and started oil-producing wells in all US shale plays included 841 horizontal wells spudded in July (as per preliminary data), based on EIA-DPR regions. This is up by 52 m-o-m, but 15% lower than in July 2022.

Preliminary data for July indicates a higher number of completed wells at 990, up y-o-y by 16%. The number of started wells is estimated at 852, which is 1% higher than a year earlier.

Preliminary data for August 2023 saw 633 spudded, 860 completed and 919 started wells, according to Rystad Energy.

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

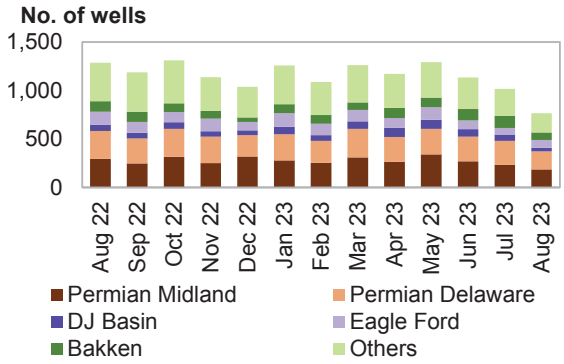



*Note: Jul 23-Aug 23 = Preliminary data.*
*Sources: Rystad Energy and OPEC.*

In terms of identified **US oil and gas fracking operations by region**, Rystad Energy reported that 1,133 wells were fracked in June. In July and August, it stated that 1,017 and 765 wells began fracking, respectively. Preliminary numbers are based on the analysis of high-frequency satellite data.

Preliminary July data show that 233 and 249 wells were fracked in Permian Midland and Permian Delaware, respectively. Compared with June, there was a decline of 36 wells in the Midland region and a drop of 5 in Delaware. Data also indicate that 64 wells were fracked in the DJ Basin, 67 in Eagle Ford and 126 in Bakken in July.

**Graph 5 - 14: Fracked wells count per month**




*Note: Jul 23-Aug 23 = Preliminary data.*
*Sources: Rystad Energy Shale Well Cube and OPEC.*

## Canada

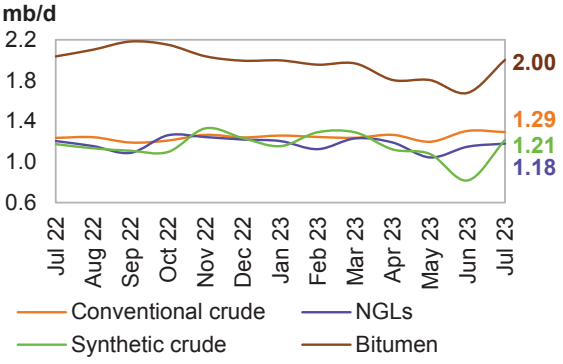
**Canada's liquids production** in **July** is estimated to have jumped significantly by 737 tb/d m-o-m to an average of 5.7 mb/d, mainly recovered from recent maintenance and disruptions.

Conventional crude production fell by 12 tb/d m-o-m in July to average 1.3 mb/d, while NGLs output increased by 30 tb/d to average 1.2 mb/d.

Crude bitumen production output rose by 323 tb/d m-o-m, and synthetic crude increased by 396 tb/d m-o-m. Taken together, crude bitumen and synthetic crude production jumped by 719 tb/d to 3.2 mb/d.

Growth in July was related to significant recovery after maintenance was completed at oil sands mines and upgraders, as well as production recovery in areas affected by wildfire.

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

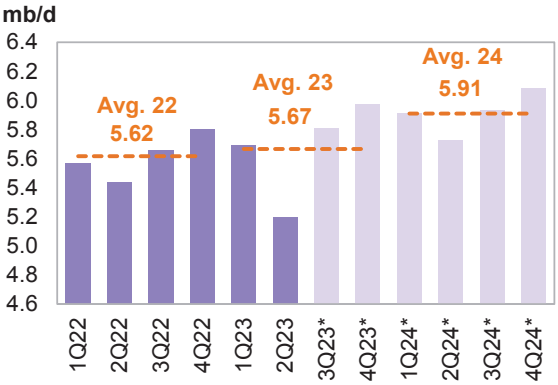



*Sources: Statistics Canada, Alberta Energy Regulator and OPEC.*

For **2023**, Canada's liquids production is forecast to increase by around 50 tb/d to average 5.7 mb/d. This is down by 25 tb/d compared with the previous assessment, mainly due to downward revisions in 2Q23 output following the latest data by national sources.

Less maintenance is expected for 3Q23 and the Terra Nova Floating Production Storage and Offloading unit (FPSO) is also expected to restart production in mid-2023. Some larger sources of near-term growth include Cenovus Energy's Foster Creek and Christina Lake (FCCL) SAGD projects, both of which are set to bring on three new well pads in the second half of 2023.

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




*Note: * 3Q23-4Q24 = Forecast. Source: OPEC.*

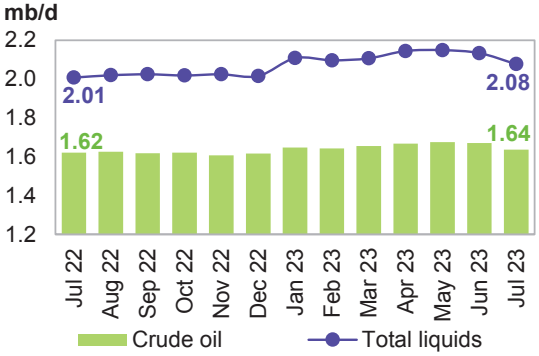
For **2024**, Canada's liquids production is forecast to gradually increase at a faster pace compared with 2023, rising by 0.2 mb/d to average 5.9 mb/d. Incremental production is expected to come through oil sands project ramp-ups and debottlenecks, in areas like Montney, Kearl and Fort Hills, together with some conventional field growth.

## Mexico

**Mexico's crude output** decreased by 34 tb/d m-o-m in **July** to average 1.6 mb/d, and NGLs output fell by 23 tb/d. Mexico's total July liquids output dropped by 57 tb/d m-o-m to an average of 2.1 mb/d, according to the Comisión Nacional de Hidrocarburos (CNH). This was in line with previous expectations, as the ramp-up of new fields was more than offset by outages after an explosion at the Nohoch Alfa oil platform at the Bay of Campeche.

For **2023**, liquids production is now forecast to rise by around 85 tb/d to an average of 2.1 mb/d. This is higher by 9 tb/d from the previous assessment. In addition to minor offline capacity due to a recent explosion, declines from other fields could start offsetting monthly gains from new fields once again in 2H23.

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




*Sources: Mexico Comision Nacional de Hidrocarburos (CNH) and OPEC*

For **2024**, liquids production is forecast to decline by 45 tb/d to average 2.0 mb/d. In general, it is expected that declines from mature fields will offset gains from new fields. Pemex's total crude production decline in mature areas like Ku-Maloob-Zaap and Integral Yaxche-Xanab is forecast to outweigh production ramp-ups in Area-1 and El Golpe-Puerto Ceiba, and from a few start-ups, namely TM-01, Paki and AE-0150-Uchukil.

# OECD Europe

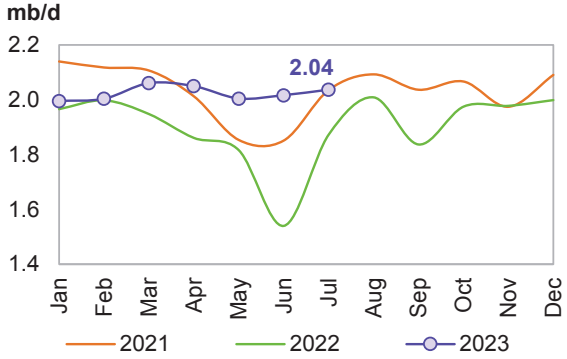
## Norway

**Norwegian liquids production** in **July** rose by 20 tb/d m-o-m to average 2.0 mb/d. While main oil fields produced on schedule, there was some unexpected maintenance at a number of fields.

Norway's crude production increased by 10 tb/d m-o-m in July to average 1.8 mb/d, higher by 187 tb/d y-o-y. Monthly oil production was 0.6% less than the Norwegian Petroleum Directorate's (NPD) forecast.

Production of NGLs and condensates, meanwhile, rose by 10 tb/d m-o-m to average 0.2 mb/d, according to NPD data.

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




*Sources: The Norwegian Petroleum Directorate (NPD) and OPEC.*

For **2023**, Norwegian liquids production is forecast to expand by 0.2 mb/d, revised down by around 30 tb/d compared with last month's forecast, to an average of 2.1 mb/d. Several technical challenges, operational irregularities and periodical shut-downs have affected Norwegian production in 1H23. However, the Johan Sverdrup ramp-up is still estimated to be the main source of growth following its Phase 2 start-up in December 2022.

For **2024**, Norwegian liquids production is forecast to grow by 120 tb/d to average 2.2 mb/d. Some small-to-large projects are scheduled to ramp up in 2024. At the same time, project start-ups are expected at offshore projects like Balder/Ringhorne, Eldfisk, Kristin, Alvheim FPSO, Hanz, Aasgard FPSO and PL636. Kobra East and Gekko (KEG) are planning to come online in early 2024 and will be tied back to the Alvheim FPSO. Johan Castberg is projected to be the main source of output increase, with first oil planned for 4Q24. Norwegian oil and gas companies plan to bring forward investments to 2023 and 2024, earlier than previously thought, driven mainly by rising activity as well as cost inflation.

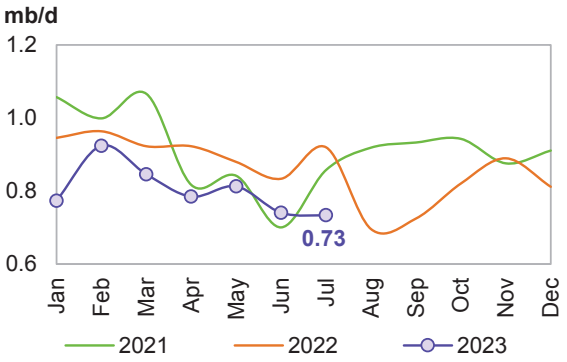
## UK

In **July, UK liquids production** fell by a minor 7 tb/d m-o-m to average 0.7 mb/d. Crude oil output decreased by 8 tb/d m-o-m to average 0.6 mb/d, lower by 171 tb/d y-o-y, according to official data. NGLs output was largely unchanged at an average of 71 tb/d. UK liquids output in July was down by 20% compared with July 2022, mainly due to natural declines and outages.

For **2023**, UK liquids production is forecast to average 0.8 mb/d, down by around 30 tb/d from the previous assessment due to lower-than-expected July output.

For **2024**, UK liquids production is forecast to stay steady at an average of 0.8 mb/d. Production ramp-ups will be seen at the ETAP and Clair, as well as the Anasuria and Captain enhanced oil recovery (EOR) start-up projects. The start-up for Penguins redevelopment is now planned in 1Q24. However, liquids production in the UK is expected to continue to face challenges, given the inadequate number of new projects and low investment.

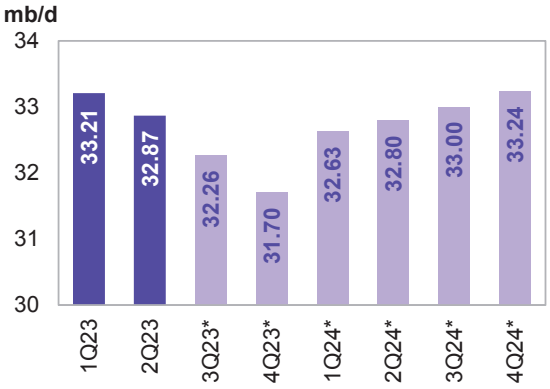
**Graph 5 - 19: UK monthly liquids production development**




*Sources: UK Department for Business, Energy and Industrial Strategy and OPEC.*

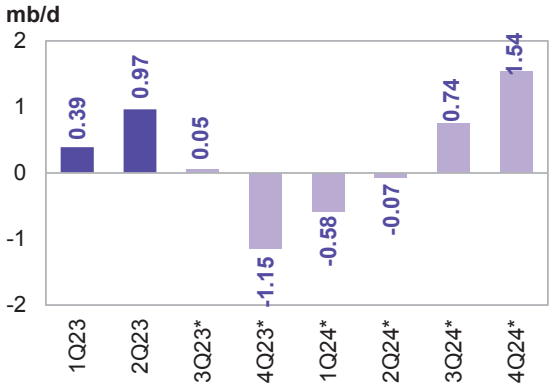
# Non-OECD

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




*Note: * 3Q23-4Q24 = Forecast. Source: OPEC.*

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




*Note: * 3Q23-4Q24 = Forecast. Source: OPEC.*

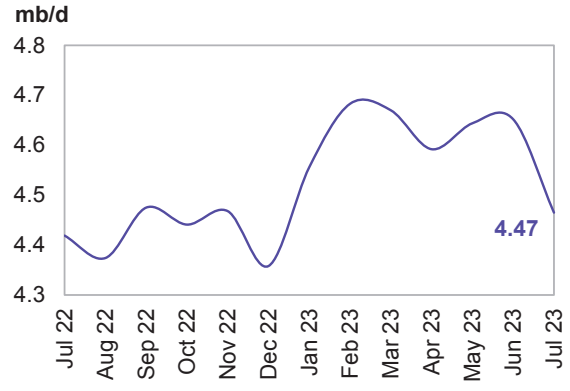
# China

**China's liquids production** fell by 187 tb/d m-o-m to average 4.5 mb/d in **July**. This is up by 46 tb/d y-o-y, according to official data. Crude oil output in July averaged 4.1 mb/d, down by 187 tb/d compared with the previous month, but higher by 43 tb/d y-o-y. NGL and condensate production was largely stable m-o-m, averaging 48 tb/d.

For **2023**, y-o-y growth of 85 tb/d is forecast for an average of 4.6 m/d. This is unchanged from last month's assessment. Natural decline rates are expected to be offset by additional growth through more infill wells and EOR projects amid efforts by state-owned oil companies to safeguard energy supplies. Almost all national Chinese oil and gas companies are expected to stick to the 2023 production target outlined earlier this year, with plans to boost output. State-controlled firm CNOOC recently reported an 11.3% drop in profit for the first half of 2023, as lower oil prices squeezed margins, despite output rising by 8.9%.

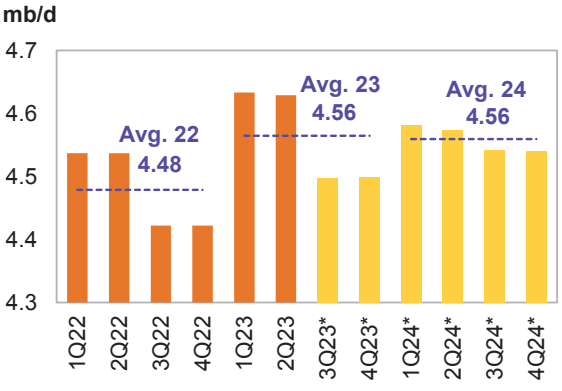
For **2024**, Chinese liquids production is expected to remain steady y-o-y and is forecast to average 4.6 m/d. For next year, Liuhua 11-1, Shayan and Liuhua 4-1 (redevelopment) are planned to come on stream under CNOOC and PetroChina. At the same time, main ramp-ups are expected from the Changqing, Kenli 10-2, Wushi 17-2 and Kenli 6-4.

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




*Sources: CNPC and OPEC.*

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



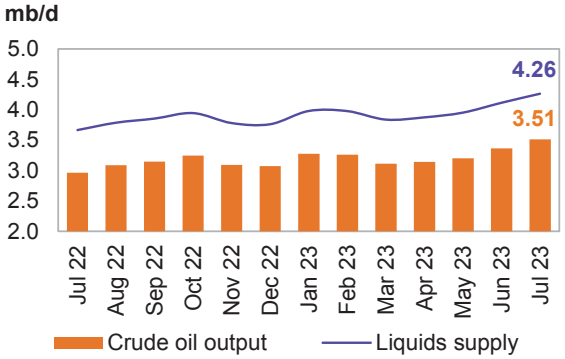

*Note: * 3Q23-4Q24 = Forecast. Sources: CNPC and OPEC.*

# Latin America

## Brazil

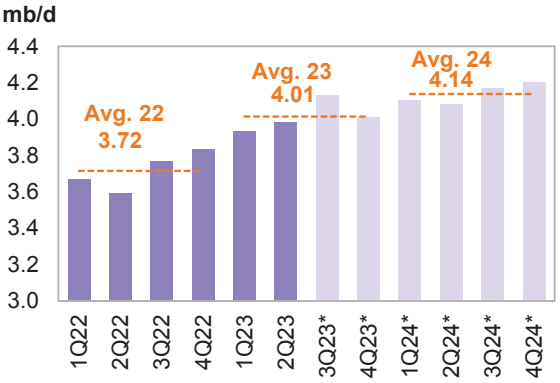
**Brazil's crude output** in **July** jumped by 146 tb/d m-o-m to an average of 3.5 mb/d, mainly due to new project ramp-ups and a recovery in pre-salt and post-salt production. NGLs production, however, was broadly unchanged at an average of 80 tb/d and is expected to remain flat in August. Biofuel output (mainly ethanol) remained broadly unchanged at an average of 671 tb/d, with preliminary data showing a stable trend in August. The country's total liquids production increased by 149 tb/d in July to average 4.3 mb/d. This is the new highest liquids production rate on record after a peak of 4.0 mb/d was seen in January 2023.

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




*Sources: Brazilian National Agency of Petroleum, Natural Gas and Biofuels (ANP) and OPEC.*

**Graph 5 - 25: Brazil's quarterly liquids production**




*Note: * 3Q23-4Q24 = Forecast. Sources: ANP and OPEC.*

For **2023**, Brazil's liquids supply, including biofuels, is forecast to rise by 0.3 mb/d y-o-y to an average of 4.0 mb/d, revised up by 40 tb/d from the previous forecast due to strong output in July, which led to a monthly jump of about 150 tb/d.

Recent monthly growth is attributed to two new FPSOs, which started production in May. This includes Anna Nery, installed at the Marlim complex in the offshore Campos Basin, and Almirante Barroso in the Buzios subsalt field. M-o-m recovery in Tupi and some post-salt fields also improved Brazil's performance. Overall, crude oil output is expected to be supported by offshore start-ups announced since the beginning of the year.

For **2024**, Brazil's liquids supply forecast, including biofuels, is forecast to increase by around 120 tb/d y-o-y to an average of 4.1 mb/d. Crude oil output is expected to increase through production ramp-ups in the Mero (Libra NW), Buzios (Franco), Tupi (Lula), Peregrino and Itapu (Florim) fields. Oil project start-ups are anticipated at Atlanta, Pampo-Enchova Cluster and Vida.

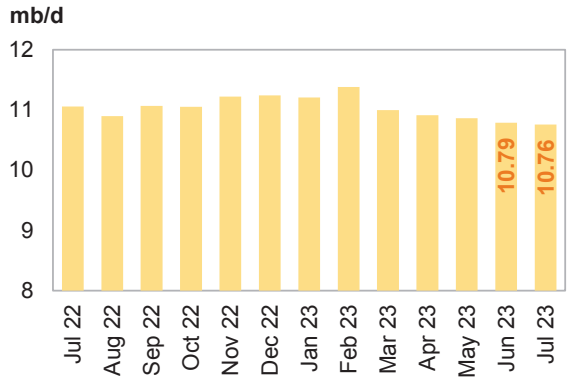
## Russia

**Russia's liquids production in July** fell by around 30 tb/d m-o-m to average 10.8 mb/d. This includes 9.5 mb/d of crude oil and 1.2 mb/d of NGLs and condensate.

For **2023**, Russian liquids production is forecast to drop by 0.6 mb/d to an average of 10.5 mb/d, revised up by around 70 tb/d from the previous month's assessment. It is worth noting that the expected contraction takes into account recently announced voluntary production adjustments to the end of 2023.

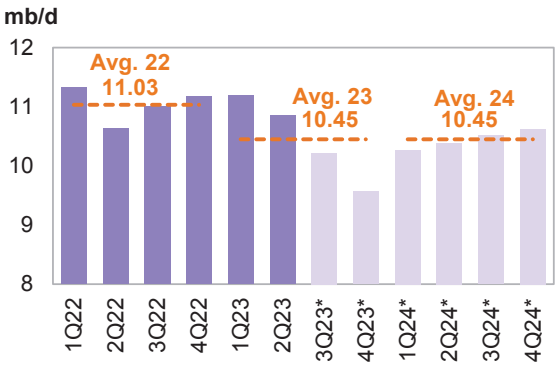
For **2024**, Russian liquids production is forecast to remain unchanged y-o-y to average 10.5 mb/d. In addition to project ramp-ups from several oil fields, there will be start-ups by Rosneft, Russneft, Lukoil, Gazprom, Neftisa and TenderResurs. However, overall additional liquids production is expected to be offset by declines from mature fields. It should be noted that the Russian oil forecast is subject to uncertainty.

**Graph 5 - 26: Russia's monthly liquids production**




*Sources: Nefte Compass and OPEC.*

**Graph 5 - 27: Russia's quarterly liquids production**




*Note: * 3Q23-4Q24 = Forecast.*
*Sources: Nefte Compass and OPEC.*

# Caspian

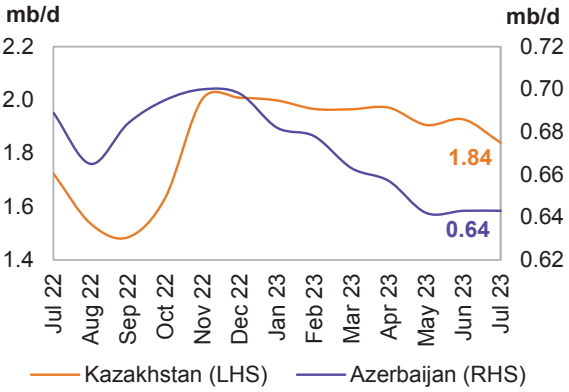
## Kazakhstan & Azerbaijan

**Liquids output in Kazakhstan** fell by 87 tb/d m-o-m to an average of 1.8 mb/d in **July**. Crude production was down by 59 tb/d m-o-m to average 1.5 mb/d. At the same time, NGL and condensate output dropped by 28 tb/d m-o-m to average 0.3 mb/d.

For **2023**, the liquids supply is forecast to increase by 0.1 mb/d to average 1.9 mb/d, largely unchanged from the previous forecast.

Oil production in early July was disrupted due to the emergency shutdown of a large generation unit at a key power plant in Kazakhstan's western Mangistau region. Power supply problems also affected crude pumping stations on the Caspian Pipeline Consortium (CPC) system, resulting in a brief reduction in crude intake on Kazakhstan's main export route.

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




*Sources: Nefte Compass, JODI and OPEC.*

For **2024**, the liquids supply is forecast to increase by around 80 tb/d to average 2.0 mb/d, mainly due to production ramp-ups in the Tengiz oil field through an expansion at the Tengizchevroil Future Growth Project (FGP) and wellhead pressure management project. Oil production in the Kashagan field and gas condensate output in the Karachaganak field are also expected to rise marginally.

**Azerbaijan's liquids production** in **July** remained broadly stable m-o-m, averaging 0.6 mb/d, which is a drop of 46 tb/d y-o-y. Crude production averaged 501 tb/d, with NGL output at 142 tb/d, according to official sources.

Azerbaijan's liquids supply for **2023** is forecast to remain unchanged at an average of 0.7 mb/d. This is a downward revision of 10 tb/d, due to lower-than-expected major oil field production in July. Declines in legacy reservoirs, like the Azeri-Chirag-Guneshli (ACG) oil fields, are expected to be offset by ramp-ups in other fields this year. TotalEnergies has started producing gas from the first phase of the Absheron project in Azerbaijan's sector of the Caspian Sea in July.

Azerbaijan's liquids supply for **2024** is forecast to decline by around 20 tb/d to average 0.7 mb/d. Growth is forecast to come partly from the Shah Deniz, Absheron and Umid-Babek gas condensate projects. Production in Azerbaijan's ACG oil fields should also get a boost next year, with a seventh ACG platform. However, the overall decline rate will be higher than planned ramp-ups.

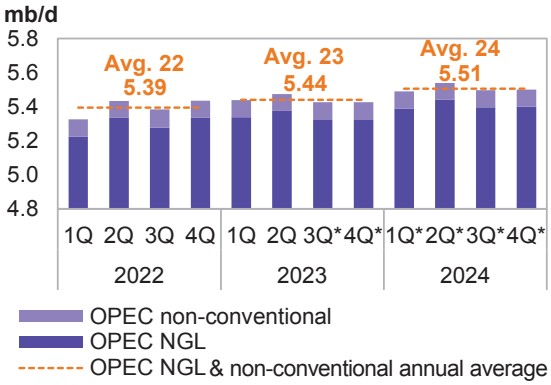
# OPEC NGLs and non-conventional oils

**OPEC NGLs and non-conventional liquids** are forecast to expand by around 50 tb/d in **2023** to average 5.4 mb/d. NGL production is projected to grow by 50 tb/d to average 5.3 mb/d, while non-conventional liquids are projected to remain unchanged at 0.1 mb/d.

Preliminary data shows NGL output in 2Q23 is expected to average 5.37 mb/d, while non-conventional output remained steady at 0.1 mb/d. Taken together, 5.44 mb/d is expected for July, according to preliminary data.

The preliminary **2024** forecast indicates growth of 65 tb/d to an average of 5.5 mb/d. NGL production is projected to grow by 65 tb/d to average 5.4 mb/d, while non-conventional liquids are projected to remain unchanged at 0.1 mb/d.

**Graph 5 - 29: OPEC NGLs and non-conventional liquids quarterly production and forecast**




*Note: * 3Q23-4Q24 = Forecast. Source: OPEC.*

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

| OPEC NGL and non-coventional oils | 2022 | Change 22/21 | 2023 | Change 23/22 | 1Q24 | 2Q24 | 3Q24 | 4Q24 | 2024 | Change 24/23 |
|---|---|---|---|---|---|---|---|---|---|---|
| **OPEC NGL** | **5.29** | *0.11* | **5.34** | *0.05* | 5.39 | 5.44 | 5.40 | 5.40 | **5.41** | *0.07* |
| **OPEC non-conventional** | **0.10** | *0.00* | **0.10** | *0.00* | 0.10 | 0.10 | 0.10 | 0.10 | **0.10** | *0.00* |
| **Total** | **5.39** | ***0.11*** | **5.44** | ***0.05*** | **5.49** | **5.54** | **5.50** | **5.50** | **5.51** | ***0.07*** |

*Note: 2023 and 2024 = Forecast.*
*Source: OPEC.*

# OPEC crude oil production

According to secondary sources, total **OPEC-13 crude oil production** averaged 27.45 mb/d in August 2023, higher by 113 tb/d m-o-m. Crude oil output increased mainly in IR Iran, Nigeria and Iraq, while production in Saudi Arabia, Angola and Venezuela decreased.

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

| Secondary sources | 2021 | 2022 | 4Q22 | 1Q23 | 2Q23 | Jun 23 | Jul 23 | Aug 23 | *Change* Aug/Jul |
|---|---|---|---|---|---|---|---|---|---|
| **Algeria** | 913 | 1,017 | 1,030 | 1,013 | 979 | 953 | 959 | 933 | *-26* |
| **Angola** | 1,123 | 1,140 | 1,084 | 1,062 | 1,106 | 1,114 | 1,175 | 1,115 | *-60* |
| **Congo** | 263 | 261 | 251 | 269 | 264 | 261 | 270 | 255 | *-15* |
| **Equatorial Guinea** | 98 | 84 | 63 | 53 | 62 | 66 | 61 | 67 | *7* |
| **Gabon** | 182 | 197 | 199 | 194 | 206 | 203 | 204 | 215 | *11* |
| **IR Iran** | 2,392 | 2,554 | 2,568 | 2,572 | 2,697 | 2,765 | 2,857 | 3,000 | *143* |
| **Iraq** | 4,046 | 4,439 | 4,505 | 4,393 | 4,147 | 4,183 | 4,239 | 4,277 | *38* |
| **Kuwait** | 2,419 | 2,704 | 2,712 | 2,684 | 2,585 | 2,550 | 2,552 | 2,554 | *2* |
| **Libya** | 1,143 | 981 | 1,153 | 1,157 | 1,164 | 1,162 | 1,126 | 1,154 | *28* |
| **Nigeria** | 1,372 | 1,205 | 1,172 | 1,347 | 1,235 | 1,320 | 1,171 | 1,269 | *98* |
| **Saudi Arabia** | 9,114 | 10,531 | 10,602 | 10,358 | 10,150 | 9,988 | 9,055 | 8,967 | *-88* |
| **UAE** | 2,727 | 3,066 | 3,094 | 3,045 | 2,941 | 2,895 | 2,896 | 2,913 | *17* |
| **Venezuela** | 560 | 681 | 670 | 703 | 741 | 739 | 772 | 730 | *-42* |
| **Total OPEC** | **26,352** | **28,861** | **29,102** | **28,851** | **28,276** | **28,200** | **27,336** | **27,449** | ***113*** |

*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 | 2021 | 2022 | 4Q22 | 1Q23 | 2Q23 | Jun 23 | Jul 23 | Aug 23 | *Change* Aug/Jul |
|---|---|---|---|---|---|---|---|---|---|
| **Algeria** | 911 | 1,020 | 1,030 | 1,011 | 971 | 953 | 955 | 939 | *-16* |
| **Angola** | 1,124 | 1,137 | 1,071 | 1,046 | 1,098 | 1,119 | 1,149 | 1,129 | *-20* |
| **Congo** | 267 | 262 | 261 | 278 | 280 | 277 | 282 | 272 | *-9* |
| **Equatorial Guinea** | 93 | 81 | 56 | 51 | 59 | 67 | 62 | 56 | *-7* |
| **Gabon** | 181 | 191 | 183 | 201 | 203 | 193 | 193 | .. | .. |
| **IR Iran** | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| **Iraq** | 3,971 | 4,453 | 4,505 | 4,288 | 3,959 | 3,985 | 4,094 | 4,073 | *-21* |
| **Kuwait** | 2,415 | 2,707 | 2,721 | 2,676 | 2,590 | 2,548 | 2,548 | 2,548 | *0* |
| **Libya** | 1,207 | .. | .. | 1,195 | 1,181 | 1,186 | 1,173 | 1,192 | *18* |
| **Nigeria** | 1,323 | 1,138 | 1,137 | 1,277 | 1,144 | 1,249 | 1,081 | 1,181 | *100* |
| **Saudi Arabia** | 9,125 | 10,591 | 10,622 | 10,456 | 10,124 | 9,956 | 9,013 | 8,918 | *-95* |
| **UAE** | 2,718 | 3,064 | 3,093 | 3,041 | 2,941 | 2,893 | 2,894 | 2,896 | *2* |
| **Venezuela** | 636 | 716 | 693 | 731 | 808 | 796 | 810 | 820 | *10* |
| **Total OPEC** | .. | .. | .. | .. | .. | .. | .. | .. | .. |

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

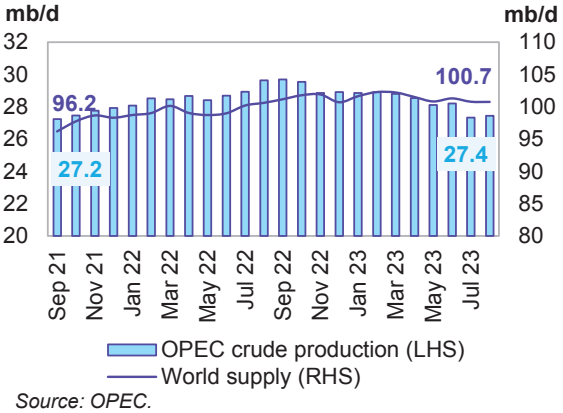
# World oil supply

Preliminary data indicates that **global liquids production in August** remained broadly unchanged averaged 100.7 mb/d compared with the previous month.

**Non-OPEC liquids production (including OPEC NGLs)** is estimated to have decreased by 0.1 mb/d m-o-m in August 2023 to average 73.3 mb/d. This was higher by 2.3 mb/d y-o-y. Preliminary estimated production rises in August were mainly driven by Other Eurasia and China, and were more than offset by drops in Russia.

The **share of OPEC crude oil in total global production** in August, increased by 0.1 pp to stand at 27.2% compared with the previous month. Estimates are based on preliminary data for non-OPEC supply, OPEC NGLs and non-conventional oil, while assessments 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 July 2023 data sees total OECD commercial oil stocks down by 7.9 mb m-o-m. At 2,779 mb, they were 57 mb higher than the same time one year ago but 138 mb lower than the latest five-year average and 190 mb below the 2015–2019 average. Within the components, crude stocks fell by 14.2 mb m-o-m, while products stocks rose by 6.3 mb.

OECD commercial crude stocks stood at 1,348 mb in July. This was 61 mb below the latest five-year average and 114 mb lower than the 2015–2019 average. Total product inventories stood at 1,430 mb in July. This is 77 mb lower than the latest five-year average and 77 mb below the 2015–2019 average.

In terms of days of forward cover, OECD commercial stocks remained unchanged m-o-m in July to stand at 59.5 days. This is 0.8 days above the July 2022 level but 4.0 days lower than the latest five-year average and 3.0 days less than the 2015–2019 average.

Preliminary data for August 2023 showed that total US commercial oil stocks decreased by 10.9 mb m-o-m to stand at 1,255 mb. This is 42.5 mb, or 3.5%, higher than the same month in 2022 but 31.4 mb, or 2.4%, below the latest five-year average. Crude stocks fell by 23.1 mb, while product stocks rose by 12.2 mb m-o-m.

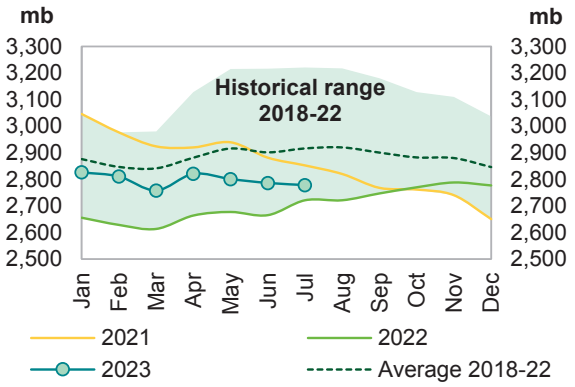
## OECD

Preliminary **July 2023** data sees **total OECD commercial oil stocks** down m-o-m by 7.9 mb. At 2,779 mb, they were 57 mb higher than the same time one year ago but 138 mb lower than the latest five-year average and 190 mb below the 2015–2019 average.

Within the components, crude stocks fell by 14.2 mb, m-o-m, while products stocks rose by 6.3 mb. Within OECD regions, total commercial oil stocks in July decreased in all three regions.

OECD commercial **crude stocks** stood at 1,348 mb in July. This was 32 mb higher than the same time a year ago but 61 mb below the latest five-year average and 114 mb lower than the 2015–2019 average.

**Graph 9 - 1: OECD commercial oil stocks**




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

M-o-m, OECD Americas and OECD Asia Pacific saw a crude stock draw of 15.0 mb and 0.3 mb, respectively, while stocks in OECD Europe rose by 1.0 mb.

By contrast**, total product inventories** rose by 6.3 mb in July to stand at 1,430 mb. This is 25 mb above the same time a year ago but 77 mb lower than the latest five-year average and 77 mb below the 2015–2019 average.

M-o-m, product stocks in OECD Americas witnessed a stock build of 14.0 mb, while OECD Asia Pacific and OECD Europe product stocks fell by 1.2 mb and 6.5 mb, respectively.

**Table 9 - 1: OECD commercial stocks, mb**

| OECD stocks | Jul 22 | May 23 | Jun 23 | Jul 23 | Change Jul 23/Jun 23 |
|---|---|---|---|---|---|
| Crude oil | 1,316 | 1,379 | 1,362 | 1,348 | *-14.2* |
| Products | 1,405 | 1,423 | 1,424 | 1,430 | *6.3* |
| **Total** | **2,722** | **2,801** | **2,787** | **2,779** | ***-7.9*** |
| **Days of forward cover** | **58.7** | **59.9** | **59.4** | **59.5** | ***0.0*** |

*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 remained unchanged m-o-m in July to stand at 59.5 days. This is 0.8 days above the July 2022 level but 4.0 days lower than the latest five-year average and 3.0 days less than the 2015–2019 average.

Within OECD regions, OECD Americas stood 4.3 days and OECD Europe 4.0 days below the latest five-year average, standing at 58.6 days and 66.4 days, respectively. OECD Asia-Pacific was 2.9 days below the latest five-year average, standing at 49.0 days.

## OECD Americas

**OECD Americas' total commercial stocks** fell by 1.0 mb m-o-m in July to settle at 1,504 mb. This is 33 mb higher than the same month in 2022 but 53 mb below the latest five-year average.

Commercial **crude oil stocks** in OECD Americas dropped m-o-m by 15.0 mb in July to stand at 731 mb, which is 9.4 mb lower than in July 2022 and 38 mb below the latest five-year average. The monthly drop in crude oil stocks can be attributed to higher US crude runs, which increased by 180 tb/d to 17.1 mb/d.

**Total product stocks** in OECD Americas increased m-o-m by 14.0 mb in July to stand at 773 mb. This is 43 mb higher than the same month in 2022 but 15 mb below the latest five-year average. Lower overall consumption in the region was behind the product stock build.

## OECD Europe

**OECD Europe's total commercial stocks** fell m-o-m by 5.5 mb in July to settle at 922 mb. This is 0.9 mb higher than the same month in 2022 but 60 mb below the latest five-year average.

OECD Europe's **commercial crude stocks** rose by 1.0 m-o-m to end July at 430 mb. This is 16.3 mb higher than one year ago but 7.0 mb below the latest five-year average.

By contrast, Europe's **product stocks** fell m-o-m by 6.5 mb to end July at 492 mb. This is 15.4 mb below the same time a year ago and 53 mb below the latest five-year average.

## OECD Asia Pacific

**OECD Asia Pacific's total commercial oil stocks** fell m-o-m by 1.4 mb in July to stand at 353 mb. This is 23 mb higher than the same time a year ago but 25 mb below the latest five-year average.

OECD Asia Pacific's **crude inventories** fell m-o-m by 0.3 mb to end July at 187 mb. This is 25 mb higher than one year ago but 16 mb below the latest five-year average.

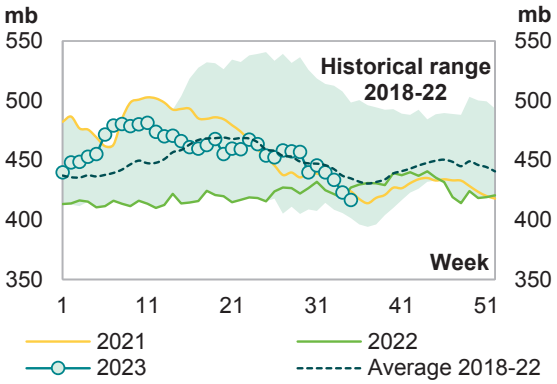
OECD Asia Pacific's **product inventories** fell by 1.2 mb m-o-m to end July at 166 mb. This is 2.3 mb lower than one year ago and 9.2 mb below the latest five-year average.

## US

Preliminary data for **August 2023** showed that **total US commercial oil stocks** fell m-o-m by 10.9 mb to stand at 1,255 mb. This is 42.5 mb, or 3.5%, higher than the same month in 2022 but 31.4 mb, or 2.4%, below the latest five-year average. Crude stocks fell by 23.1 mb, while product stocks rose by 12.2 mb m-o-m.

US commercial **crude stocks** in August stood at 416.6 mb. This is 3.1 mb, or 0.7%, lower than the same month of 2022 and 20.0 mb, or 4.6%, less than the latest five-year average. The monthly drop in crude oil stocks can be attributed to higher crude runs, which increased by 66 tb/d to 17.16 mb/d.

**Graph 9 - 2: US weekly commercial crude oil inventories**




*Sources: EIA and OPEC.*

By contrast, **total product stocks** rose in August to stand at 838.5 mb. This is 45.6 mb, or 5.8%, higher than August 2022 levels but 11.4 mb, or 1.3%, lower than the latest five-year average. The product stock build could be attributed to lower product consumption.

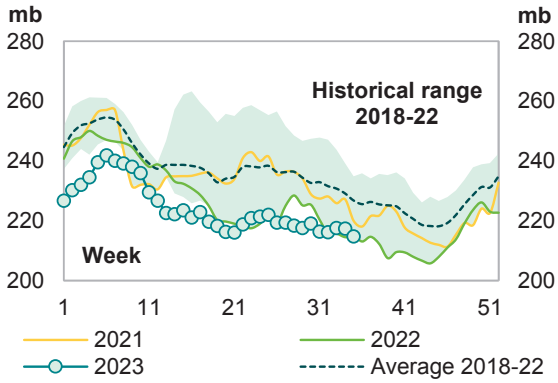
**Gasoline stocks** fell m-o-m by 4.3 mb in August to settle at 214.7 mb. This is 0.8 mb, or 0.4%, less than the same month of 2022, and 14.3 mb, or 6.3%, below the latest five-year average.

**Residual fuel oil stocks** also fell by 1.2 mb m-o-m in August. At 26.3 mb, this was 2.3 mb, or 8.1%, lower than a year earlier, and 3.6 mb, or 12.1%, below the latest five-year average.

**By contrast, distillate stocks** rose m-o-m, increasing by 1.4 mb in August to stand at 118.6 mb. This is 5.5 mb, or 4.8%, higher than the same month of 2022, but 21.1 mb, or 15.1%, below the latest five-year average.

**Jet fuel stocks** also rose by 0.9 mb m-o-m, ending August at 42.0 mb. This is 3.6 mb, or 9.4%, higher than the same month in 2022 and 0.8 mb, or 2.0%, higher than the latest five-year average.

**Graph 9 - 3: US weekly gasoline inventories**




*Sources: EIA and OPEC.*

**Table 9 - 2: US commercial petroleum stocks, mb**

| US stocks | Aug 22 | Jun 23 | Jul 23 | Aug 23 | Change Aug 23/Jul 23 |
|---|---|---|---|---|---|
| **Crude oil** | **419.8** | **454.7** | **439.8** | **416.6** | ***-23.1*** |
| **Gasoline** | 215.6 | 223.2 | 219.1 | 214.7 | *-4.3* |
| **Distillate fuel** | 113.1 | 112.6 | 117.2 | 118.6 | *1.4* |
| **Residual fuel oil** | 28.6 | 30.4 | 27.5 | 26.3 | *-1.2* |
| **Jet fuel** | 38.4 | 42.7 | 41.1 | 42.0 | *0.9* |
| **Total products** | **792.9** | **809.7** | **826.3** | **838.5** | ***12.2*** |
| **Total** | **1,212.7** | **1,264.4** | **1,266.1** | **1,255.2** | ***-10.9*** |
| **SPR** | **445.1** | **347.2** | **346.8** | **350.3** | ***3.6*** |

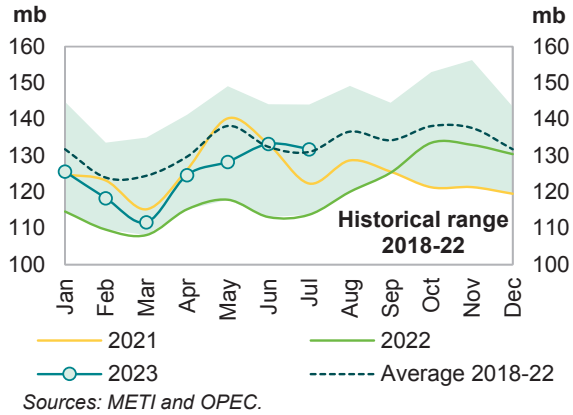
*Sources: EIA and OPEC.*

# Japan

In **Japan**, **total commercial oil stocks** in **July** fell by 1.4 mb m-o-m to settle at 131.8 mb. This is 18.0 mb, or 15.9%, higher than the same month in 2022 and 0.7 mb, or 0.6%, above the latest five-year average. Crude and products stocks fell m-o-m by 0.3 mb and 1.2 mb, respectively.

Japanese **commercial crude oil stocks** fell by 0.3 mb m-o-m in July to stand at 77.5 mb. This is 17.4 mb, or 28.9%, higher than the same month of 2022 and 4.0 mb, or 5.4%, above the latest five-year average. This crude stock draw came on the back of higher crude runs, which increased by 403 tb/d m-o-m, or 18.5%, to stand at 2.59 mb/d.

**Graph 9 - 4: Japan's commercial oil stocks**




*Sources: METI and OPEC.*

**Gasoline stocks** fell m-o-m by 1.3 mb to stand at 8.9 mb in July. This is in line with a year earlier, but 1.1 mb, or 10.7%, lower than the latest five-year average. The fall came on the back of higher domestic gasoline sales, which increased m-o-m by 11.2%.

**Total residual fuel oil stocks** also fell by 0.3 mb m-o-m to end June at 12.4 mb. This is 1.6 mb, or 14.9%, higher than in the same month of 2022 and 0.5 mb, or 3.9%, above the latest five-year average. Within the components, fuel oil A stocks rose by 2.4%, while fuel oil BC stocks fell by 4.8% m-o-m.

By contrast, **distillate stocks** rose by 0.6 mb m-o-m to end July at 23.8 mb. This is 0.8 mb, or 3.3%, below the same month of 2022 and 2.5 mb, or 9.6%, below the latest five-year average.

Within distillate components, jet fuel and kerosene stocks rose by 5.5% or 12.9%, respectively, while gasoil stocks fell m-o-m by 10.2%.

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

| Japan's stocks | Jul 22 | May 23 | Jun 23 | Jul 23 | Change Jul 23/Jun 23 |
|---|---|---|---|---|---|
| **Crude oil** | **60.1** | **74.2** | **77.8** | **77.5** | ***-0.3*** |
| **Gasoline** | 8.9 | 10.6 | 10.2 | 8.9 | *-1.3* |
| **Naphtha** | 9.3 | 8.3 | 9.4 | 9.2 | *-0.2* |
| **Middle distillates** | 24.7 | 23.2 | 23.2 | 23.8 | *0.6* |
| **Residual fuel oil** | 10.8 | 12.0 | 12.7 | 12.4 | *-0.3* |
| **Total products** | **53.6** | **54.1** | **55.5** | **54.3** | ***-1.2*** |
| **Total**** | **113.7** | **128.3** | **133.2** | **131.8** | ***-1.4*** |

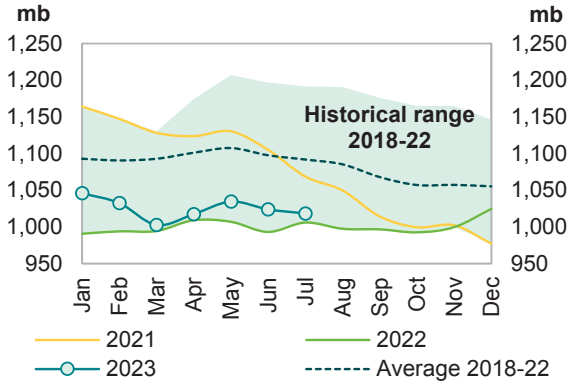
*Note: * At the end of the month. ** Includes crude oil and main products only.*
*Sources: METI and OPEC.*

# EU-14 plus UK and Norway

Preliminary data for **July** showed that **total European commercial oil stocks** fell by 5.5 mb m-o-m to stand at 1,018 mb. At this level, they were 12.3 mb, or 1.2%, above the same month of 2022 but 73.5 mb, or 6.7%, lower than the latest five-year average. Crude stocks rose by 1.0 mb m-o-m, while product stocks fell by 6.5 mb.

European **crude inventories** stood at 438.6 mb in July. This is 3.0 mb, or 0.7%, lower than the same month in 2022 and 35.8 mb, or 7.5%, below the latest five-year average. The build in crude oil inventories in July came despite higher refinery throughput in the EU-14, as well as the UK and Norway, increasing by around 30 tb/d m-o-m to stand at 9.52 mb/d in July.

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




*Sources: Argus, Euroilstock and OPEC.*

By contrast, **total European product stocks** fell by 6.5 mb m-o-m to end July at 579.6 mb. This is 15.3 mb or 2.7% higher than the same month of 2022 but 37.8 mb, or 6.1%, below the latest five-year average.

**Gasoline stocks** fell m-o-m by 1.5 mb in July to stand at 105.7 mb. At this level, they were 2.0 mb, or 1.9%, lower than the same time in 2022, and 2.4 mb, or 2.2%, below the latest five-year average.

**Middle distillate stocks** also fell m-o-m by 2.4 mb in July to stand at 385.4 mb. This is 18.9 mb, or 5.2%, higher than the same month in 2022 but 30.4 mb, or 7.3%, lower than the latest five-year average.

**Residual fuel stocks** fell by 2.8 mb m-o-m in July to stand at 59.9 mb. This is 1.1 mb, or 1.8%, higher than the same month in 2022 but 4.5 mb, or 7.0%, below the latest five-year average.

By contrast, **naphtha stocks** rose by 0.2 mb in July, ending the month at 28.7 mb. This is 2.7 mb, or 8.5%, lower than the July 2022 level, and 0.5 mb, or 1.8%, below the latest five-year average.

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

| EU stocks | Jul 22 | May 23 | Jun 23 | Jul 23 | *Change* Jul 23/Jun 23 |
|---|---|---|---|---|---|
| **Crude oil** | **441.6** | **445.7** | **437.6** | **438.6** | ***1.0*** |
| **Gasoline** | 107.7 | 102.3 | 107.2 | 105.7 | *-1.5* |
| **Naphtha** | 31.4 | 27.6 | 28.5 | 28.7 | *0.2* |
| **Middle distillates** | 366.4 | 395.6 | 387.8 | 385.4 | *-2.4* |
| **Fuel oils** | 58.8 | 63.3 | 62.7 | 59.9 | *-2.8* |
| **Total products** | **564.3** | **588.7** | **586.1** | **579.6** | ***-6.5*** |
| **Total** | **1,005.9** | **1,034.4** | **1,023.7** | **1,018.2** | ***-5.5*** |

*Sources: Argus, Euroilstock and OPEC.*

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

## Singapore

In **July**, **total product stocks in Singapore** rose by 0.8 mb m-o-m to reach 43.2 mb. This is 0.4 mb, or 0.9%, lower than the same month in 2022 and 1.7 mb, or 3.7%, below the latest five-year average.

**Light distillate stocks** fell by 0.5 mb m-o-m in July to stand at 13.7 mb. This is 4.0 mb, or 22.5%, lower than the same month of 2022 and 0.8 mb, or 5.6 %, less than the latest five-year average.

**Middle distillate stocks** also fell by 0.8 mb m-o-m in July to stand at 7.1 mb. This 0.8 mb or 10.0% lower than in July 2022, and 3.5 mb, or 33.3%, lower than the latest five-year average.

By contrast, **residual fuel oil stocks** rose by 2.1 mb m-o-m, ending July at 22.4 mb. This is 4.4 mb, or 24.3% higher than July 2022, and 2.7 mb, or 13.6%, above the latest five-year average.

## ARA

**Total product stocks in ARA** in July fell by 0.5 mb m-o-m. At 43.2 mb, they were 03.0 mb, or 7.5%, above the same month in 2022 but 1.4 mb, or 3.1%, lower than the latest five-year average.

**Gasoline stocks** in July fell by 0.3 mb m-o-m to stand at 11.2 mb. This is 0.5 mb, or 4.3%, lower than the same month of 2022 but 1.4 mb, or 14.4%, higher than the latest five-year average.

**Fuel oil stocks** also dropped by 1.0 mb m-o-m in July to stand at 8.2 mb, which is 0.8 mb, or 10.1%, higher than in July 2022 and 0.5 mb, or 6.8% above the latest five-year average.

By contrast, **gasoil stocks** rose by 0.7 mb m-o-m, ending July at 15.6 mb. This is 4.5 mb, or 41.1%, higher than in July 2022 but 1.7 mb, or 10.0%, less than the latest five-year average.

**Jet oil stocks** also fell by 0.1 mb m-o-m to stand at 5.9 mb. This is 0.6 mb, or 8.7%, lower than in July 2022, and 1.0 mb, or 14.4%, less than the latest five-year average.

## Fujairah

During the week ending 4 September 2023, **total oil product stocks in Fujairah** fell w-o-w by 1.32 mb to stand at 16.00 mb, according to data from Fed Com and S&P Global Commodity Insights. At this level, total oil stocks were 5.74 mb lower than at the same time a year ago.

**Light distillate stocks** rose w-o-w by 0.44 mb to stand at 5.96 mb, which is 1.12 mb lower than a year ago.

By contrast, **middle distillate stocks** fell w-o-w by 0.58 mb to stand at 1.44 mb, which is 1.24 mb lower than the same time last year.

**Heavy distillate stocks** also fell by 1.19 mb w-o-w to stand at 8.61 mb, which is 3.39 mb lower than the same period a year ago.

# Balance of Supply and Demand

Demand for OPEC crude in 2023 was revised down by 0.1 mb/d from the previous assessment to stand at 29.2 mb/d. This is around 0.8 mb/d higher than in 2022.

According to secondary sources, OPEC crude production averaged 28.8 mb/d in 1Q23, which is 0.3 mb/d higher than the demand for OPEC crude. In 2Q23, OPEC crude production averaged 28.3 mb/d, which is 0.1 mb/d lower than the demand for OPEC crude.

Demand for OPEC crude in 2024 was also revised down by 0.1 mb/d from the previous assessment to stand at 30.0 mb/d, 0.8 mb/d higher than the estimated level in 2023.

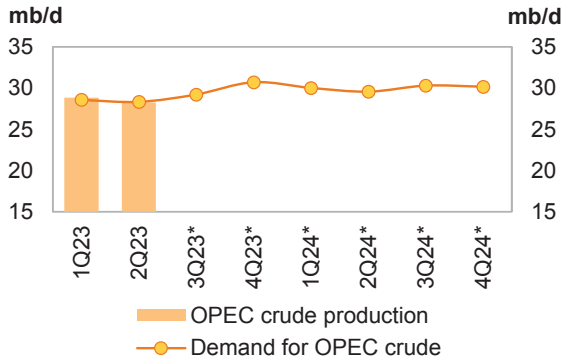
## Balance of supply and demand in 2023

**Demand for OPEC crude in 2023** was revised down by 0.1 mb/d from the previous assessment to stand at 29.2 mb/d. This is around 0.8 mb/d higher than in 2022.

Compared with the previous assessment, both 2Q23 and 4Q23 remained unchanged, while 1Q23 was revised up by 0.1 mb/d. Meanwhile, 3Q23 was revised down by 0.3 mb/d when compared to the previous month.

Compared with the same quarters in 2022, demand for OPEC crude in 2Q23, 3Q23 and 4Q23 are estimated to be higher by 0.3 mb/d, 0.9 mb/d and 2.0 mb/d, respectively. Meanwhile, OPEC crude in 1Q23 is estimated to remain at the same level as in 1Q22.

**Graph 10 - 1: Balance of supply and demand, 2023–2024***




*Note: * 3Q23-4Q24 = Forecast.*
*Source: OPEC.*

According to secondary sources, OPEC crude production averaged 28.8 mb/d in 1Q23, which is 0.3 mb/d higher than demand for OPEC crude. In 2Q23, OPEC crude production averaged 28.3 mb/d, which is 0.1 mb/d lower than demand for OPEC crude.

**Table 10 - 1: Supply/demand balance for 2023*, mb/d**

| | 2022 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | 2023 | Change 2023/22 |
|---|---|---|---|---|---|---|---|
| **(a) World oil demand** | **99.62** | **101.74** | **101.26** | **102.06** | **103.18** | **102.06** | ***2.44*** |
| **Non-OPEC liquids production** | 65.81 | 67.72 | 67.43 | 67.39 | 67.04 | 67.39 | *1.58* |
| **OPEC NGL and non-conventionals** | 5.39 | 5.44 | 5.47 | 5.43 | 5.43 | 5.44 | *0.05* |
| **(b) Total non-OPEC liquids production and OPEC NGLs** | **71.21** | **73.16** | **72.91** | **72.82** | **72.46** | **72.83** | ***1.62*** |
| **Difference (a-b)** | **28.41** | **28.58** | **28.35** | **29.23** | **30.71** | **29.23** | ***0.81*** |
| **OPEC crude oil production** | **28.86** | **28.85** | **28.28** | | | | |
| **Balance** | **0.45** | **0.27** | **-0.08** | | | | |

*Note: * 2023 = Forecast. Totals may not add up due to independent rounding.*
*Source: OPEC.*

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

| World oil demand and supply balance | 2020 | 2021 | 2022 | 1Q23 | 2Q23 | 3Q23 | 4Q23 | 2023 | 1Q24 | 2Q24 | 3Q24 | 4Q24 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **World demand** | | | | | | | | | | | | | |
| Americas | 22.45 | 24.32 | 25.11 | 24.71 | 25.42 | 25.68 | 25.19 | 25.25 | 24.90 | 25.59 | 25.89 | 25.34 | 25.43 |
| *of which US* | *18.35* | *20.03* | *20.43* | *20.11* | *20.72* | *20.83* | *20.37* | *20.51* | *20.25* | *20.86* | *20.99* | *20.51* | *20.65* |
| Europe | 12.41 | 13.19 | 13.52 | 13.10 | 13.40 | 13.99 | 13.39 | 13.47 | 13.15 | 13.46 | 14.06 | 13.42 | 13.52 |
| Asia Pacific | 7.16 | 7.34 | 7.38 | 7.81 | 6.93 | 7.22 | 7.65 | 7.40 | 7.84 | 6.95 | 7.25 | 7.65 | 7.42 |
| **Total OECD** | **42.03** | **44.85** | **46.00** | **45.62** | **45.75** | **46.89** | **46.22** | **46.12** | **45.89** | **46.00** | **47.20** | **46.42** | **46.38** |
| China | 13.94 | 15.00 | 14.85 | 15.63 | 15.96 | 15.57 | 16.11 | 15.82 | 16.20 | 16.42 | 16.19 | 16.78 | 16.40 |
| India | 4.51 | 4.77 | 5.14 | 5.40 | 5.40 | 5.21 | 5.50 | 5.38 | 5.63 | 5.64 | 5.44 | 5.69 | 5.60 |
| Other Asia | 8.13 | 8.67 | 9.02 | 9.40 | 9.44 | 8.99 | 9.14 | 9.24 | 9.66 | 9.69 | 9.35 | 9.50 | 9.55 |
| Latin America | 5.90 | 6.25 | 6.44 | 6.60 | 6.70 | 6.73 | 6.68 | 6.68 | 6.79 | 6.88 | 6.95 | 6.84 | 6.87 |
| Middle East | 7.45 | 7.79 | 8.30 | 8.63 | 8.32 | 8.86 | 8.73 | 8.64 | 8.91 | 8.76 | 9.41 | 8.98 | 9.02 |
| Africa | 4.08 | 4.22 | 4.40 | 4.69 | 4.27 | 4.43 | 4.88 | 4.57 | 4.80 | 4.45 | 4.60 | 5.01 | 4.72 |
| Russia | 3.39 | 3.62 | 3.56 | 3.69 | 3.45 | 3.60 | 3.87 | 3.65 | 3.75 | 3.56 | 3.75 | 3.94 | 3.75 |
| Other Eurasia | 1.07 | 1.21 | 1.15 | 1.24 | 1.21 | 1.02 | 1.23 | 1.17 | 1.27 | 1.24 | 1.08 | 1.28 | 1.22 |
| Other Europe | 0.70 | 0.75 | 0.77 | 0.84 | 0.77 | 0.75 | 0.83 | 0.80 | 0.86 | 0.78 | 0.77 | 0.84 | 0.81 |
| **Total Non-OECD** | **49.16** | **52.28** | **53.62** | **56.12** | **55.51** | **55.17** | **56.96** | **55.94** | **57.88** | **57.43** | **57.54** | **58.86** | **57.93** |
| **(a) Total world demand** | **91.19** | **97.13** | **99.62** | **101.74** | **101.26** | **102.06** | **103.18** | **102.06** | **103.76** | **103.43** | **104.74** | **105.28** | **104.31** |
| ***Y-o-y change*** | ***-9.15*** | ***5.94*** | ***2.49*** | ***2.23*** | ***2.90*** | ***2.51*** | ***2.10*** | ***2.44*** | ***2.03*** | ***2.17*** | ***2.68*** | ***2.10*** | ***2.25*** |
| **Non-OPEC liquids production** | | | | | | | | | | | | | |
| Americas | 24.87 | 25.46 | 26.92 | 27.90 | 28.00 | 28.53 | 28.52 | 28.24 | 28.71 | 28.75 | 29.21 | 29.52 | 29.05 |
| *of which US* | *17.76* | *18.06* | *19.28* | *20.10* | *20.66* | *20.64* | *20.50* | *20.48* | *20.74* | *20.96* | *21.23* | *21.39* | *21.08* |
| Europe | 3.92 | 3.79 | 3.58 | 3.69 | 3.64 | 3.65 | 3.87 | 3.71 | 3.92 | 3.80 | 3.75 | 3.89 | 3.84 |
| Asia Pacific | 0.52 | 0.51 | 0.48 | 0.45 | 0.45 | 0.48 | 0.47 | 0.46 | 0.47 | 0.44 | 0.45 | 0.44 | 0.45 |
| **Total OECD** | **29.31** | **29.77** | **30.97** | **32.04** | **32.09** | **32.67** | **32.87** | **32.42** | **33.10** | **32.99** | **33.41** | **33.85** | **33.34** |
| China | 4.16 | 4.32 | 4.48 | 4.63 | 4.63 | 4.50 | 4.50 | 4.56 | 4.58 | 4.57 | 4.54 | 4.54 | 4.56 |
| India | 0.78 | 0.78 | 0.77 | 0.76 | 0.78 | 0.79 | 0.78 | 0.78 | 0.79 | 0.79 | 0.79 | 0.78 | 0.79 |
| Other Asia | 2.53 | 2.42 | 2.30 | 2.31 | 2.26 | 2.31 | 2.37 | 2.31 | 2.29 | 2.27 | 2.25 | 2.25 | 2.26 |
| Latin America | 6.02 | 5.96 | 6.34 | 6.69 | 6.76 | 6.88 | 6.80 | 6.78 | 6.95 | 7.02 | 7.15 | 7.23 | 7.09 |
| Middle East | 3.15 | 3.19 | 3.29 | 3.27 | 3.29 | 3.25 | 3.30 | 3.28 | 3.33 | 3.32 | 3.31 | 3.31 | 3.32 |
| Africa | 1.41 | 1.34 | 1.29 | 1.24 | 1.27 | 1.28 | 1.30 | 1.27 | 1.28 | 1.31 | 1.34 | 1.35 | 1.32 |
| Russia | 10.54 | 10.80 | 11.03 | 11.19 | 10.85 | 10.22 | 9.57 | 10.45 | 10.27 | 10.39 | 10.52 | 10.63 | 10.45 |
| Other Eurasia | 2.91 | 2.93 | 2.83 | 3.00 | 2.93 | 2.94 | 2.98 | 2.96 | 3.02 | 3.02 | 3.00 | 3.04 | 3.02 |
| Other Europe | 0.12 | 0.11 | 0.11 | 0.11 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| **Total Non-OECD** | **31.64** | **31.85** | **32.44** | **33.21** | **32.87** | **32.26** | **31.70** | **32.50** | **32.63** | **32.80** | **33.00** | **33.24** | **32.92** |
| Total Non-OPEC production | 60.95 | 61.61 | 63.42 | 65.25 | 64.96 | 64.93 | 64.57 | 64.92 | 65.73 | 65.79 | 66.41 | 67.09 | 66.26 |
| Processing gains | 2.16 | 2.29 | 2.40 | 2.47 | 2.47 | 2.47 | 2.47 | 2.47 | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 |
| **Total Non-OPEC liquids production** | **63.11** | **63.90** | **65.81** | **67.72** | **67.43** | **67.39** | **67.04** | **67.39** | **68.25** | **68.31** | **68.93** | **69.61** | **68.78** |
| OPEC NGL + non-conventional oils | 5.17 | 5.28 | 5.39 | 5.44 | 5.47 | 5.43 | 5.43 | 5.44 | 5.49 | 5.54 | 5.50 | 5.50 | 5.51 |
| **(b) Total non-OPEC liquids production and OPEC NGLs** | **68.27** | **69.18** | **71.21** | **73.16** | **72.91** | **72.82** | **72.46** | **72.83** | **73.74** | **73.85** | **74.43** | **75.11** | **74.28** |
| ***Y-o-y change*** | ***-2.54*** | ***0.91*** | ***2.03*** | ***2.21*** | ***2.58*** | ***1.60*** | ***0.13*** | ***1.62*** | ***0.58*** | ***0.94*** | ***1.61*** | ***2.64*** | ***1.45*** |
| **OPEC crude oil production (secondary sources)** | 25.73 | 26.35 | 28.86 | 28.85 | 28.28 | | | | | | | | |
| **Total liquids production** | 94.00 | 95.53 | 100.07 | 102.01 | 101.18 | | | | | | | | |
| **Balance (stock change and miscellaneous)** | 2.81 | -1.60 | 0.45 | 0.27 | -0.08 | | | | | | | | |
| **OECD closing stock levels, *mb*** | | | | | | | | | | | | | |
| Commercial | 3,037 | 2,651 | 2,777 | 2,758 | 2,787 | | | | | | | | |
| SPR | 1,541 | 1,484 | 1,214 | 1,217 | 1,206 | | | | | | | | |
| **Total** | **4,578** | **4,135** | **3,991** | **3,975** | **3,993** | | | | | | | | |
| **Oil-on-water** | 1,148 | 1,202 | 1,399 | 1,413 | 1,302 | | | | | | | | |
| **Days of forward consumption in OECD, *days*** | | | | | | | | | | | | | |
| Commercial onland stocks | 68 | 58 | 60 | 60 | 59 | | | | | | | | |
| SPR | 34 | 32 | 26 | 27 | 26 | | | | | | | | |
| **Total** | **102** | **90** | **87** | **87** | **85** | | | | | | | | |
| **Memo items** | | | | | | | | | | | | | |
| **(a) - (b)** | **22.91** | **27.95** | **28.41** | **28.58** | **28.35** | **29.23** | **30.71** | **29.23** | **30.03** | **29.58** | **30.31** | **30.17** | **30.02** |

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

*Source: OPEC.*

https://www.iea.org/reports/oil-market-report-september-2023

# Oil Market Report - September 2023

Part of Oil Market Report
Flagship report
September 2023

### About this report

The IEA Oil Market Report (OMR) is one of the world's most authoritative and timely sources of data, forecasts and analysis on the global oil market – including detailed statistics and commentary on oil supply, demand, inventories, prices and refining activity, as well as oil trade for IEA and selected non-IEA countries.

### Highlights

- World oil demand remains on track to grow by 2.2 mb/d in 2023 to 101.8 mb/d, led by resurgent Chinese consumption, jet fuel and petrochemical feedstocks. In 2024, naphtha and LPG/ethane, especially in China, will dominate an overall increase of a more modest 990 kb/d, to 102.8 mb/d, reflecting below-trend GDP growth and a structural decline in road transport fuel use in major markets.

- The extension of output cuts by Saudi Arabia and Russia through year-end will lock in a substantial market deficit through 4Q23. So far this year, OPEC+ output has fallen by 2 mb/d with overall losses tempered by sharply higher Iranian flows. Non-OPEC+ supply rose by 1.9 mb/d to a record 50.5 mb/d by August. World supply in 2023 will rise by 1.5 mb/d, with the US, Iran and Brazil top sources of growth.

- Russian oil export revenues surged by $1.8 bn to $17.1 bn in August, as higher prices more than offset lower shipments. Led by a decline in product shipments, total Russian oil exports eased by 150 kb/d last month, to 7.2 mb/d, 570 kb/d below a year-ago. Shipments to China and India slumped to 3.9 mb/d from 4.7 mb/d in April and May but accounted for more than half the total volumes.

- Refinery margins hit an eight-month high in August as refiners struggled to keep up with oil demand growth, especially for middle distillates. Product cracks and margins reached near-record levels due to unplanned outages, feedstock quality issues, supply chain bottlenecks and low stocks. Global refinery runs are forecast to rise by 1.7 mb/d to 82.4 mb/d in 2023 and by 1.2 mb/d to 83.6 mb/d next year.

- Global observed oil inventories plummeted by 76.3 mb to a 13-month low in August, led by a hefty decline in oil on water. Non-OECD oil stocks fell by 20.8 mb with the largest draw seen in China, while OECD inventories eased by 3.2 mb. In July, OECD industry stocks rose by 26.7 mb to 2 814 mb but remained 102.6 mb below their five-year average.

- Oil prices traded in a narrow range throughout August, with North Sea Dated hovering around $85/bbl and price volatility at multi-year lows. Prices moved higher by end-month as fundamentals came to the fore once again and breached $90/bbl for the first time in 10 months after Saudi Arabia and Russia extended voluntary production cuts until the end of 2023.

**40 years on**

The very first edition of the IEA's benchmark Oil Market Report (OMR) was published 40 years ago, in September 1983. The international oil market complex has since grown exponentially. But then, as now, energy security concerns were critical. The IEA was created in response to the energy security challenges triggered by the 1973-1974 oil embargo when major producers pushed prices to historic levels. Launched to provide greater market transparency, the OMR has since become one of the world's most authoritative sources for comprehensive analysis and timely statistics on oil market fundamentals, crucial to strengthening energy security globally.

Russia's invasion of Ukraine in February 2022 upended oil and gas markets, creating the first truly global energy crisis amid the uneven economic recovery from the Covid-19 pandemic. Russia's membership in the OPEC+ bloc has complicated efforts by the international community to navigate the crisis and address the major inflationary impacts of higher oil prices on economies around the world, especially in developing countries.

The Saudi-Russian alliance is proving a formidable challenge for oil markets. After oil prices traded in relative calm during August, with volatility at multi-year lows, the decision by Saudi Arabia and Russia in early September to extend output cuts of a combined 1.3 mb/d through year-end triggered a price spike in North Sea Dated above $90/bbl to a 10-month high. As forecast in this Report for some time, oil markets were already tightening and in August observed global inventories plunged by a sharp 76.3 mb, or 2.46 mb/d.

An expected rise in global oil demand of 1.5 mb/d in 2H23 over 1H23 levels will eclipse supply by 1.24 mb/d. Despite its difficult economic situation, China looks on track to account for 75% of the increase in world oil demand this year, or 1.6 mb/d of the 2.2 mb/d total. But global demand growth is set to slow sharply to around 1 mb/d in 2024 as the recovery runs out of steam and with efficiency gains, EV penetration and working from home further suppressing consumption.

Refiners are struggling to meet increased demand, especially for distillates. Surging product cracks and refinery margins near all-time highs have failed to spur a meaningful increase in throughputs. Sub-optimal crude allocations following embargoes on Russian crude and products and OPEC+ oil supply cuts have kept European and OECD Asian refinery runs well below year-earlier levels.

Output curbs by OPEC+ members of more than 2.5 mb/d since the start of 2023 have so far been offset by higher supplies from producers outside the alliance. Record US and Brazilian supply underpin a 1.9 mb/d increase in non-OPEC+ production from January to August, while Iran, still under sanctions, boosted output by around 600 kb/d. But from September onwards, the loss of OPEC+ production, led by Saudi Arabia, will drive a significant supply shortfall through the fourth quarter. Unwinding cuts at the start of 2024 would shift the balance to a surplus. However, oil stocks will be at uncomfortably low levels, increasing the risk of another surge in volatility that would be in the interest of neither producers nor consumers, given the fragile economic environment.

**OPEC+ crude oil production**[1]

*million barrels per day*

| | Jul 2023 Supply | Aug 2023 Supply | Aug Prod vs Target | Aug-2023 Target | Sustainable Capacity[2] | Eff Spare Cap vs Aug[3] |
|---|---|---|---|---|---|---|
| Algeria | 0.96 | 0.93 | -0.08 | 1.01 | 1.0 | 0.07 |
| Angola | 1.15 | 1.13 | -0.33 | 1.46 | 1.11 | -0.02 |
| Congo | 0.28 | 0.27 | -0.04 | 0.31 | 0.27 | 0.0 |
| Equatorial Guinea | 0.06 | 0.07 | -0.05 | 0.12 | 0.06 | -0.01 |
| Gabon | 0.22 | 0.22 | 0.04 | 0.18 | 0.19 | -0.03 |
| Iraq | 4.27 | 4.32 | -0.11 | 4.43 | 4.75 | 0.43 |
| Kuwait | 2.55 | 2.55 | -0.13 | 2.68 | 2.83 | 0.28 |
| Nigeria | 1.1 | 1.18 | -0.56 | 1.74 | 1.33 | 0.15 |
| Saudi Arabia | 9.08 | 8.98 | -1.5 | 10.48 | 12.25 | 3.27 |
| UAE | 3.22 | 3.22 | 0.2 | 3.02 | 4.2 | 0.98 |
| **Total OPEC-10** | **22.89** | **22.87** | **-2.55** | **25.42** | **28.0** | **5.19** |
| Iran[4] | 3.04 | 3.14 | | | 3.8 | |
| Libya[4] | 1.13 | 1.16 | | | 1.22 | 0.06 |
| Venezuela[4] | 0.81 | 0.79 | | | 0.8 | 0.01 |
| **Total OPEC** | **27.87** | **27.96** | | | **33.82** | **5.26** |
| Azerbaijan | 0.5 | 0.5 | -0.18 | 0.68 | 0.54 | 0.04 |
| Kazakhstan | 1.52 | 1.46 | -0.17 | 1.63 | 1.67 | 0.21 |
| Mexico[5] | 1.64 | 1.67 | | 1.75 | 1.68 | 0.01 |
| Oman | 0.8 | 0.8 | -0.04 | 0.84 | 0.85 | 0.05 |
| Russia | 9.48 | 9.48 | -0.47 | 9.95 | 9.98 | |
| Others [6] | 0.82 | 0.87 | -0.18 | 1.06 | 0.87 | 0.01 |
| **Total Non-OPEC** | **14.75** | **14.79** | **-1.04** | **15.91** | **15.58** | **0.31** |
| **OPEC+ 19 in cut deal[4]** | **36.01** | **35.99** | **-3.59** | **39.57** | **41.9** | **5.49** |
| **Total OPEC+** | **42.62** | **42.75** | | | **49.41** | **5.57** |

1. Excludes condensates. 2. Capacity levels can be reached within 90 days and sustained for an extended period. 3. Excludes shut in Iranian, Russian crude. 4. Iran, Libya, Venezuela exempt from cuts. 5. Mexico excluded from OPEC+ compliance. Only cut in May, June 2020. 6. Bahrain, Brunei, Malaysia, Sudan and South Sudan.

**IEA World Oil Supply and Demand Forecasts: Summary (Table)**

2023-09-13 08:00:00.3 GMT

By Kristian Siedenburg

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

| | 4Q 2024 | 3Q 2024 | 2Q 2024 | 1Q 2024 | 4Q 2023 | 3Q 2023 | 2Q 2023 | 1Q 2023 | 2024 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Demand | | | | | |
| Total Demand | 103.5 | 104.0 | 102.6 | 101.1 | 102.5 | 102.6 | 101.7 | 100.4 | 102.8 | 101.8 |
| Total OECD | 45.5 | 46.1 | 45.3 | 44.8 | 45.9 | 46.2 | 45.7 | 45.4 | 45.5 | 45.8 |
| Americas | 24.7 | 25.1 | 24.8 | 24.2 | 24.9 | 25.2 | 25.2 | 24.5 | 24.7 | 25.0 |
| Europe | 13.2 | 13.7 | 13.5 | 12.9 | 13.3 | 13.8 | 13.6 | 13.1 | 13.3 | 13.4 |
| Asia Oceania | 7.7 | 7.3 | 7.0 | 7.7 | 7.7 | 7.2 | 7.0 | 7.8 | 7.4 | 7.4 |
| Non-OECD countries | 58.0 | 57.9 | 57.2 | 56.3 | 56.6 | 56.4 | 56.0 | 54.9 | 57.3 | 56.0 |
| FSU | 5.0 | 5.0 | 4.8 | 4.9 | 5.0 | 5.1 | 4.9 | 4.9 | 4.9 | 5.0 |
| Europe | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| China | 17.0 | 17.2 | 17.1 | 16.5 | 16.5 | 16.5 | 16.6 | 15.6 | 16.9 | 16.3 |
| Other Asia | 15.2 | 14.4 | 14.7 | 14.7 | 14.7 | 14.0 | 14.4 | 14.4 | 14.8 | 14.4 |
| Americas | 6.5 | 6.5 | 6.4 | 6.2 | 6.4 | 6.4 | 6.3 | 6.2 | 6.4 | 6.3 |
| Middle East | 9.0 | 9.5 | 9.1 | 8.9 | 8.9 | 9.4 | 8.9 | 8.8 | 9.1 | 9.0 |
| Africa | 4.6 | 4.4 | 4.4 | 4.4 | 4.3 | 4.2 | 4.2 | 4.3 | 4.4 | 4.3 |
| | | | | | Supply | | | | | |
| Total Supply | n/a | n/a | n/a | n/a | n/a | n/a | 101.8 | 101.9 | n/a | n/a |
| Non-OPEC | 69.1 | 69.2 | 68.8 | 68.0 | 68.0 | 67.8 | 67.4 | 67.0 | 68.8 | 67.6 |
| Total OECD | 31.6 | 31.4 | 31.2 | 31.1 | 31.2 | 30.8 | 30.5 | 30.4 | 31.3 | 30.7 |
| Americas | 27.8 | 27.7 | 27.5 | 27.3 | 27.4 | 27.1 | 26.8 | 26.7 | 27.6 | 27.0 |
| Europe | 3.3 | 3.2 | 3.2 | 3.3 | 3.3 | 3.2 | 3.2 | 3.3 | 3.3 | 3.2 |
| Asia Oceania | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Non-OECD | 31.8 | 31.7 | 31.8 | 31.7 | 31.3 | 31.1 | 31.3 | 31.6 | 31.8 | 31.3 |
| FSU | 13.8 | 13.7 | 13.8 | 13.7 | 13.7 | 13.5 | 13.8 | 14.2 | 13.7 | 13.8 |
| Europe | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| China | 4.3 | 4.3 | 4.4 | 4.4 | 4.2 | 4.2 | 4.3 | 4.3 | 4.3 | 4.3 |
| Other Asia | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.7 | 2.7 | 2.7 | 2.6 | 2.7 |
| Americas | 6.6 | 6.6 | 6.5 | 6.5 | 6.2 | 6.2 | 6.0 | 6.0 | 6.6 | 6.1 |
| Middle East | 3.1 | 3.1 | 3.1 | 3.2 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 |
| Africa | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.2 | 1.3 | 1.3 |
| Processing Gains | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.3 | 2.3 | 2.4 | 2.4 |
| Total OPEC | n/a | n/a | n/a | n/a | n/a | n/a | 34.4 | 34.8 | n/a | n/a |
| Crude | n/a | n/a | n/a | n/a | n/a | n/a | 28.9 | 29.4 | n/a | n/a |
| Natural gas liquids NGLs | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.5 | 5.5 | 5.6 | 5.5 |
| Call on OPEC crude and stock change * | 28.8 | 29.2 | 28.2 | 27.5 | 29.0 | 29.3 | 28.8 | 27.9 | 28.4 | 28.7 |

NOTE: Figures are in million of barrels per day. (*) equals total demand minus non-OPEC supply and OPEC natural gas liquids.

IEA changed the way it measures OPEC supply, adopting the industry-standard approach of counting most of Venezuela's Orinoco heavy oil as "crude oil."

SOURCE: International Energy Agency

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Mark Evans

**IEA: August Crude Oil Production in OPEC Countries (Table)**
2023-09-13 08:00:00.1 GMT
By Kristian Siedenburg
(Bloomberg) -- Following is a summary of oil production in OPEC countries from the International Energy Agency in Paris:

| | Aug. 2023 | July 2023 | Aug. MoM |
|---|---|---|---|
| Total OPEC | 27.96 | 27.87 | 0.09 |
| Total OPEC10 | 22.87 | 22.89 | -0.02 |
| Algeria | 0.93 | 0.96 | -0.03 |
| Angola | 1.13 | 1.15 | -0.02 |
| Congo | 0.27 | 0.28 | -0.01 |
| Equatorial Guinea | 0.07 | 0.06 | 0.01 |
| Gabon | 0.22 | 0.22 | 0.00 |
| Iraq | 4.32 | 4.27 | 0.05 |
| Kuwait | 2.55 | 2.55 | 0.00 |
| Nigeria | 1.18 | 1.10 | 0.08 |
| Saudi Arabia | 8.98 | 9.08 | -0.10 |
| UAE | 3.22 | 3.22 | 0.00 |
| Iran | 3.14 | 3.04 | 0.10 |
| Libya | 1.16 | 1.13 | 0.03 |
| Venezuela | 0.79 | 0.81 | -0.02 |

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

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https://blinks.bloomberg.com/news/stories/S0WVCCGFFW8W

**IEA REPORT WRAP: Saudi Oil Cuts; Russian Revenue; Demand Decline**
2023-09-13 09:22:49.881 GMT
By Prejula Prem
(Bloomberg) -- Summary of stories from IEA's monthly Oil Market Report:
* Saudi Oil Cuts Threaten Surge in Price Volatility, IEA Warns
* Russian Oil Revenue Jumps to 10-Month High, IEA Says
* OECD Oil Demand Set to Go Into Long-Term Decline Next Year: IEA

** Work From Home Still Sapping 800k B/d of Road-Fuel Demand: IEA
** China's Oil Use to Return to Economic Growth Level in 2024: IEA
** West Africa Crudes Gain on Demand for Diesel-Rich Grades: IEA
* OPEC Crude Output Climbs 90k B/D on Iranian Ramp-Up, IEA Says
* Oil Refiners Reduce Output on Loss of Middle Eastern Grades: IEA
** Click here for table
* IEA World Oil Supply/Demand Key Forecasts
** Click here for detailed quarterly forecast table by region
** Click here for revisions to supply/demand forecast

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**IEA World Oil Supply/Demand Key Forecasts**
2023-09-13 08:00:00.6 GMT
By Kristian Siedenburg
(Bloomberg) -- World oil demand 2024 forecast was revised to 102.8m b/d from 103.2m b/d in Paris-based Intl Energy Agency's latest monthly report.
* 2023 world demand was revised to 101.8 from 102.2m b/d
* Demand change in 2024 est. 1% y/y or 1m b/d
* Non-OPEC supply 2024 was revised to 68.8m b/d from 68.7m b/d
* Call on OPEC crude 2024 was revised to 28.4m b/d from 29.0m b/d
* Call on OPEC crude 2023 was revised to 28.7 m b/d from 29.3m b/d
** OPEC crude production in Aug. rose by 90k b/d on the month to 27.96m b/d
* Detailed table: FIFW NSN S0WVCCGFLIIO <GO>
* NOTE: Fcasts based off IEA's table providing one decimal point

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**OPEC Crude Output Climbs 90k B/D on Iranian Ramp-Up, IEA Says**
2023-09-13 08:00:00.7 GMT
By Amanda Jordan
(Bloomberg) -- OPEC's August crude output rose 90k b/d from a month earlier to 27.96m b/d, led by a ramp-up in Iranian supply, the IEA said in its monthly market report.
* Production in Iran — exempt from OPEC+ quotas — increased 100k b/d to 3.14m b/d, the highest since October 2018
* Nigeria also boosted supply, with output up 80k b/d at 1.18m b/d after Shell resumed exports of Forcados
* Saudi Arabia reduced production 100k b/d to 8.98m b/d
* Elsewhere in the Gulf, UAE supply held steady at 3.22m b/d, while Iraqi production edged up 50k b/d to 4.32m b/d
* In Africa, Angolan output slipped to 1.13m b/d and Algerian supply dropped 30k b/d to 930k b/d, while Libya boosted production 30k b/d to 1.16m b/d
* A military coup in Gabon had no apparent impact on production, with output unchanged at 220k b/d
* Supply in Venezuela inched down 20k b/d to 790k b/d
* NOTE: OPEC released its own figures for August on Tuesday, estimating its 13 members pumped 27.45m b/d

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**OECD Oil Demand Set to Go Into Long-Term Decline Next Year: IEA**
2023-09-13 08:00:00.41 GMT
By Jack Wittels
(Bloomberg) -- OECD oil demand is forecast to begin a "long run of annual declines in 2024," the IEA said in its monthly Oil Market Report.
* Demand forecast to fall by 360k b/d in 2024, after growing by a narrow 90k b/d this year
** In OECD Americas, demand projected to climb to just shy of 25m b/d, before starting "a structural decline in 2024"
* Europe likely to be the only OECD region to suffer a contraction in demand during 2023
** Consumption to fall by 70k b/d in 2023 and by 100k b/d in 2024
** Demand loss in 2024 dominated by gasoil, as drivers continue to shift away from diesel engine vehicles
* OECD Asia Oceania demand to rise by only 30k b/d in 2023, reaching 7.4m b/d

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**Work From Home Still Sapping 800k B/d of Road-Fuel Demand: IEA**

2023-09-13 08:00:00.8 GMT

By Alaric Nightingale

(Bloomberg) -- Every additional day per week of working from home per worker in a country equates to a decline in light-duty vehicle demand of 4%, the IEA says in its monthly oil market report, citing an EconPol report.

* By far the biggest impact has been in the US, which has relatively high home-working rates and where about 500k b/d of fuel use is being avoided as a consequence
* To put the impact into context, the IEA compares it with electric vehicle sales up to January, which account for about 950k b/d of fuel savings
* That shows working from home to have been “a major structural factor behind underwhelming road fuel use since 2019”

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**China’s Oil Use to Return to Economic Growth Level in 2024: IEA**

2023-09-13 08:00:00.21 GMT

By Sherry Su

(Bloomberg) -- China’s oil use is expected to “recalibrate back to its GDP-derived level in 2024” as the rebound from the easing of Covid restrictions dissipates and baselines normalize, the IEA said in its monthly Oil Market Report.

* China oil demand growth expected to slow to 640k b/d y/y in 2024, near GDP-implied level
* This compares with current forecast of 1.6m b/d y/y, propelled by the post-pandemic rebound in travel

** “Our growth outlook has roughly doubled since restrictions were lifted in December,” but the recovery has largely run its course and gains are now effectively realized, the IEA said
** IEA’s estimate for 4Q 2023 has remained little changed as China’s economic outlook deteriorated

* “A more muted economic outlook has weighed on oil usage now that Beijing has abandoned the debt-fueled manufacturing model that characterized the 1980-2010 boom years, in favor of a less leveraged consumption-led one”

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**West Africa Crudes Gain on Demand for Diesel-Rich Grades: IEA**
2023-09-13 08:00:00.42 GMT
By Bill Lehane
(Bloomberg) -- Prices for WAF crude grades that have a high middle distillate yield rose in August, due to robust European demand, the IEA said in its monthly oil market report.
* Refiners showed a “preference for medium-sweet Angolan crudes, which can be blended with light WTI sweet crudes to enhance feedstock mix”
* Forcados rebounded to Dated Brent +$4.10/bbl in September
** That grade had weakened slightly in August after the end of an unplanned outage
* In August, Qua Iboe increased by $1.41/bbl to Dated Brent +$3.36/bbl
* Bonny Light and Brass River gained about $1.30/bbl to premiums of $1.95/bbl and $2.42/bbl against Dated respectively
* Premiums for Angolan grade Girassol added 89c/bbl m/m to Dated +$2.89/bbl, Cabinda +$1.22/bbl to +$2.45/bbl

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Rachel Graham

**Oil Refiners Reduce Output on Loss of Middle Eastern Grades: IEA**
2023-09-13 08:00:00.39 GMT
By Rachel Graham
(Bloomberg) -- Oil refineries are struggling to operate at capacity on a lack of certain crude grades from the Middle East and Russia, the IEA said in its monthly Oil Market Report.
* Some operators are taking crudes that “limit their processing rates” following the loss of Russian supplies to European

refineries and cuts to sour Middle Eastern exports this year
** Regions with higher middle-distillate yields, including Europe and OECD Asia, have seen persistently lower runs
** An increase in US light sweet crude exports has exacerbated this constraint
* That coincides with strong middle-distillate demand growth, with jet fuel and gasoil set to contribute 1.1m b/d of the total 1.7m b/d increase in global products consumption this year
* The refining industry has added about 2.1m b/d of capacity in the past 12 months but that's not all running at full tilt, including Al Zour in Kuwait
* The increase in margins to an 8-month high in August is "symptomatic of the more structural problem of robust middle-distillate demand growth, low product inventories, stretched supply chains and insufficient access to medium and heavy sour crude"
* Crude runs this year are forecast at 82.4m b/d; 2024 throughput set at 83.6m b/d

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https://saudigazette.com.sa/article/635844

# Prince Mohammed bin Salman: His charisma and charm of vision

September 14, 2023

**Jameel Altheyabi**

The skies over the Indian capital, New Delhi, did not need more lights to confirm the pivotal international diplomatic role of Crown Prince and Prime Minister Mohammed bin Salman, who led the Kingdom's delegation to the Leaders' Summit of the G20, the most powerful global economic bloc. The Crown Prince's participation has been instrumental in bringing high-level effectiveness and vitality to the summit and resulting in the announcement of a memorandum of understanding to establish the India-Middle East-Europe Economic Corridor. This corridor is poised to bring about a radical civilizational change in trade among the countries of the Middle East, Asia, and Europe.

Prince Mohammed bin Salman, who has become the focus of global attention and the center of the international community's keen interest, represents a new global vision. This is evidenced by his superior capabilities and ingenuity in approaching a number of crises that threatened global peace. This was evident through his mediation of the exchange of prisoners between Moscow and Kyiv, as well as his successful efforts in securing the release of an American basketball player detained by Russia.

Perhaps the manifestations of this unique diplomacy are most evident in the transformation of Riyadh and Jeddah into two effective centers for regional and international summits. The Crown Prince has turned his country into a destination where the leaders of major nations cannot afford to skip its airports. Among those leaders are US President Joe Biden, German Chancellor Olaf Scholz, French President Emmanuel Macron, Chinese President Xi Jinping, who landed in Riyadh in December 2022, and Ukrainian President Volodymyr Zelensky, who attended the Jeddah Arab Summit as part of a regional diplomatic initiative. Therefore, it was natural for Beijing to offer its mediation for reconciliation between Riyadh and Tehran to restore diplomatic relations and shift the regional balance in a way that astonished adversaries rather than allies. This was followed by the organization of a high-level security meeting in Jeddah, attended by security officials from 42 countries, to discuss a solution to the Ukrainian crisis.

The truth is that whenever Prince Mohammed bin Salman's diplomacy achieves success, anti-Saudi voices emerge, claiming that these steps mean Riyadh is distancing itself from Washington, London, or Paris, and that Saudi Arabia is moving toward an alliance with Moscow or Beijing or seeks to form alliances with various international blocs.

It is as if these critics are driven by their imaginations to determine with whom Saudi Arabia should ally itself and where its leaders should go. It's as if they fear befriending countries they consider their enemies or see a genie demonizing international politics.

One telling example of this was Saudi Arabia's recent acceptance of an invitation to attend a meeting of leaders from the increasingly influential BRICS group on the international stage. In fact, Saudi Arabia did

not request to join that group; rather, it received an invitation to attend the meeting and accepted it without entering into any obligations. This clearly confirms that Prince Mohammed bin Salman has become a pivotal figure on the global diplomatic stage. It is certain that this ‘guardian mentality’ is what prompts American or British media circles to fabricate reports and stories, often attributed to “unreliable” sources!

There is no doubt the American Democrats are seeking an "achievement" they can use in the 2024 elections. It is certain that Saudi Arabia, represented by its Crown Prince, will not provide that "achievement" without conditions that serve its pure national interests. Those who know Prince Mohammed bin Salman closely are undoubtedly aware that he refuses to sacrifice Riyadh’s relations with any other world powers in exchange for potential deals. When he engages with China, strengthens relations with Moscow, or participates in the deliberations of the BRICS bloc, he does so with the aim of advancing his country's highest interests and the well-being of its people. At the core of this is the Kingdom's century-long commitment to ensuring peace and stability in the Arab and Islamic regions. This conclusively confirms that the authority and power reside in the hands of Prince Mohammed bin Salman, not in the hands of external parties seeking to pursue their interests and those of their allies at the expense of the geopolitical role that geography and history have bestowed upon this young Kingdom.

The course of international politics has proven that world leaders are eager to meet with Prince Mohammed bin Salman. The Crown Prince has succeeded in establishing balanced relations with all the competing global powers, always prioritizing the interests of his own country. This has led him to maintain an impartial stance in the Russian-Ukrainian crisis and the heated competition between Beijing and Washington, based on terms and conditions that align with Saudi Arabia's interests.

Rather than engaging in statements of denial and counter-denial, Prince Mohammed bin Salman has pursued domestic reforms with strength, passion, ambition, and determination. He does so in accordance with a sagacious vision, while maintaining a full awareness of the great responsibility of building a Saudi Arabia that is open to the future without denying its history, principles, and core values.

Saudi Vision 2030 has already started to bear economic and social fruit and has a global impact, particularly through its initiatives related to addressing the climate change crisis and inevitable transformations in the energy sector. After removing the obstacles to restructuring the Saudi economy, the Crown Prince is now focused on implementing high-quality policies, expanding the reach of Saudi sovereign wealth represented by the Public Investment Fund, and continuing the nation-building process by leading the Kingdom toward modern technology and advanced industries. This will position Saudi Arabia as a significant player in the 21st-century global scenario.

What is certain is that Western and Eastern nations have recognized the success and fruitfulness of Prince Mohammed bin Salman's policies, characterized by passion, ambition, and solidity. Eager to engage with his country's vision and investment initiatives, they are now flocking to the Saudi capital, Riyadh. These initiatives are promising, and its programs and vision are led by a star of global diplomacy, as described by Britain's Daily Telegraph newspaper. And that is the truth.

https://www.presstv.ir/Detail/2023/08/09/708652/Iran-oil-output-increase-plan-NIOC-CEO

# Iran’s oil output to reach 3.5 mln bpd by late September: NIOC chief

Wednesday, 09 August 2023 6:24 PM **[ Last Update: Wednesday, 09 August 2023 6:24 PM ]**

CEO of Iran’s state-run NIOC says oil output in the country will reach 3.5 million bpd in late September.

**Iran will reach a milestone oil production figure of 3.5 million barrels per day (bpd) in late September, according to the CEO of state oil company NIOC, despite sanctions imposed on the country by the US.**

Mohsen Khojasteh Mehr said on Wednesday that Iran’s oil output will increase by 150,000 bpd within the next week and by another 100,000 bpd by the end of the month to September 22 to reach a total of 3.5 million bpd.

The figure would be a major increase from 2.2 million bpd of oil production reported in August 2021 when the current administrative government led by President Raeisi took office, said Khojasteh Mehr.

He said the growth in oil output will entirely serve Iran’s plans to increase its oil exports.

The comments, which came in a meeting with reporters at the headquarters of the National Iranian Oil Company, is the latest sign that Iran is pumping increased amounts of oil to the international markets despite continued pressure of the US sanctions.

Reports earlier this year had indicated that Iran’s nominal oil production capacity had been restored to levels above 3.8 million bpd for a first time since 2018 when Washington imposed its sanctions on the country.

However, reaching an actual output of 3.5 million bpd shows Iran is effectively nearing export levels seen before the sanctions when the country used to sell 2.2 million bpd of oil to international customers.

Central Bank of Iran Governor Mohammad Reza Farzin also said on Wednesday that Iran’s oil exports had risen by 41% year on year in the calendar month to late July to reach a record high in five years.

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https://www.reuters.com/world/middle-east/iraq-turkey-oil-pipeline-ready-resume-operations-soon-turkish-minister-2023-09-15/?taid=6504209efee5c1000187d519&utm_campaign=trueAnthem:+Trending+Content&utm_medium=trueAnthem&utm_source=twitter

# Iraq-Turkey oil pipeline ready to resume operations soon - Turkish minister

By Can Sezer

September 15, 20231:27 AM MDTUpdated 2 hours ago

ANKARA, Sept 15 (Reuters) - Iraq's northern oil export route through Turkey will soon be ready to resume operation after checks on pipeline maintenance and repairs to flood damage, the Turkish energy minister said.

A survey of the oil pipeline is complete and it will soon be "technically" ready for operation, Alparslan Bayraktar said.

Turkey halted flows on Iraq's northern oil export route on March 25 after an arbitration ruling by the International Chamber of Commerce (ICC) ordered Ankara to pay Baghdad damages for unauthorised exports by the Kurdistan Regional Government (KRG) between 2014 and 2018.

Turkey then started maintenance work on the pipeline, which goes through a seismically active zone and which it says has been damaged by floods.

"As of today, the independent surveyor completed their survey and now they're preparing their report," Bayraktar said without mentioning a date for resumption of oil flows, in an embargoed press briefing held by the ministry on Thursday.

Iraq and Turkey previously agreed to wait until maintenance works were complete before resuming the pipeline that contributes about 0.5% of global oil supply. Sources said oil flows are not expected to start before October, with KRG losing roughly $4 billion in lost exports.

Turkey also calculates Iraq owes $950 million as a result of ICC arbitration, net of damages Turkey has to pay Iraq.

Ankara will also file in the Paris court for a "set-aside case", Bayraktar said. Iraq opened an enforcement case against Turkey in a U.S. federal court in April, to enforce a $1.5 billion arbitration award.

"As two neighbouring countries, we need to find an amicable solution. But from the legality perspective, we need to take care of our interests. Most likely in the future we might face another court challenge. But the pipeline will be operational technically. It is more or less ready and we will start the operation soon", Bayraktar said.

Ankara wants Baghdad to withdraw a second arbitration case covering the period from 2018 onward, and negotiate a reduced payment. Turkey also wants Erbil and Baghdad to agree on a common position and negotiate the continuance of the pipeline agreement, which is set to expire in 2026.

Reporting by Can Sezer; Editing by Daren Butler, Miral Fahmy and Alexander Smith

Turkey Seeks Iraq Revenue-Sharing Deal to Restart Oil Exports
2023-08-25 10:12:01.470 GMT

By Selcan Hacaoglu and Onur Ant

(Bloomberg) -- Turkey is attempting to broker a deal between the central Iraqi government and the semi-autonomous Kurdish administration over how to resume Iraqi crude-oil exports via its territory, according to two Turkish officials.

Turkey halted flows through a twin-pipeline in March after an arbitration court ordered it to pay about $1.5 billion in damages to Iraq for transporting oil without Baghdad's approval. Ankara has no intention of paying the fine and is asking the Kurds to pay it to Baghdad as they were the benefactors, the officials said.

A compromise over competing demands from Iraq and the Kurdish administration over revenue-sharing from oil exports is being sought, the officials who are familiar with the matter said. The two sides have been quarreling for years over rights to Kurdistan oil sales, part of Baghdad's long-running attempt to rein in the semi-autonomous region.

Officials from the Baghdad government didn't comment, while the KRG declined to comment.

Turkey's Foreign Minister Hakan Fidan discussed energy, economic and security relations both with the president and prime minister of the Kurdish government in Erbil on Thursday, after holding talks with his Iraqi counterpart in Baghdad earlier in the week. Turkish Energy Minister Alparslan Bayraktar also traveled to Erbil and has had discussions with Iraqi Oil Minister Hayyan Abdul Ghani.

Repairing Ties

Turkey is reaching out to Baghdad to repair ties after years of estrangement as part of a reset in relations with Arab nations. Ankara is offering the Kurdistan Regional Government, or KRG, as well as the central government in Baghdad help in building power plants and other infrastructure.

Baghdad has asked Turkey to collect the money from oil exports and transfer it to Iraq after deducting 12.6% of the share allocated to the KRG, said the officials, speaking on condition of anonymity. The KRG, however, has told Turkey that it wants to claim the entire revenue from exports via its territory, arguing that it has been unable to collect funds from separate Iraqi oil exports, they said.

The pipeline running from Kirkuk to Turkey's Mediterranean port of Ceyhan remains operational and Iraqi crude exports could start quickly once there is a deal in place, the Turkish officials said, adding that Turkey aims to resolve the conflict as soon as possible.

The closure of the pipeline has cut off nearly half a million barrels of crude from global markets as Ankara refused to pay the $1.5 billion fine. Iraq had been exporting about 400,000 to 500,000 barrels a day from fields in the country's

north, including in the Kurdish region, via the now-halted pipeline.
It's unclear how much of that oil would flow back onto world markets if there was a deal, since Iraq is already pumping at very close to the limit under its OPEC quota.

--With assistance from Khalid Al-Ansary.

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Sep 15, 2023 05:58:07

# OIL DEMAND MONITOR: Deficit Unrolls as Stockpiles Are Depleted

Forecasters see consumption exceeding supply amid OPEC+ curbs
Fresh price volatility may hamper economic recovery, IEA warns

By John Deane

(Bloomberg) -- The oil market looks set to be in deficit for the rest of this year as steady demand and tightening supply combine to erode stockpiles.

Major forecasters agree that supply curbs spearheaded by Saudi Arabia and Russia will see supply fall short of demand, while there's speculation that OPEC+ may extend much of the cut into the first quarter of 2024.

In its monthly Oil Market Report on Wednesday, the Paris-based International Energy Agency said global oil markets face a deficit of 1.2 million barrels a day during the second half of 2023, following announcements by the OPEC+ leaders that they will stretch cutbacks to at least the end of the year.

Global inventories plummeted by more than 75 million barrels in August alone, the IEA noted. The imbalance threatens a renewed surge in oil price volatility, and atttendant risks to global economic recovery.

"Prolonged high prices risk delaying the easing of monetary policies which could put the recovery in the economic situtation at risk," Toril Bosoni, head of the oil markets division at the IEA, said in an interview for Bloomberg Television.

OPEC+ is squeezing supply during a period of record demand. The result could be a shortfall of more than three million barrels a day in the fourth quarter, according to forecasts by the Organization of Petroleum Exporting Countries.

In its monthly report published Tuesday, OPEC pegged global oil demand growth at 2.4 million barrels a day this year for an average daily demand of 102.1 million barrels. The Vienna-based producer group sees demand rising by a further 2.2 million barrels a day in 2024.

The US Energy Information Administration, in its monthly report, also saw global crude consumption outstripping supplies in the fourth quarter, though by a much smaller amount, as it lowered its forecast for US gasoline demand.

Oil supply cuts implemented by Saudi Arabia and Russia threaten a renewed surge in price volatility, according to the International Energy Agency. Toril Bosoni, head of the oil markets division, joins "The Pulse With Francine Lacqua."Source: Bloomberg

A range of indicators suggest that oil demand remains resilient, despite continuing concerns about high interest rates around the world, and China's muted economic recovery from the coronavirus era.

On the roads, traffic congestion intensified in most parts of the world in the most recent figures. Of 13 major global cities covered by this monitor, six — Taipei, New York, London, Rome, Paris and Berlin — topped pre-Covid traffic levels on Monday, according to BNEF seven-day moving-average calculations based on TomTom data. Traffic levels in most of the major Chinese cities swelled in the latest figures from Baidu.

Read More: Road Traffic Indicators: China Surges to Pre-Summer Levels

In the skies, there was a mixed picture. Demand for passenger jet fuel is set to fall again amid an autumnal lull in travel. According to passenger flight schedules for Sept. 12-18, implied jet fuel demand is on course for a 2.3% week-on-week drop, according to BNEF calculations.

Airline seat capacity is expected to stabilize around the 112 million-a-week mark for the next few weeks — well ahead of last year and only a few percentage points below 2019 levels — before an anticipated drop at the beginning of the winter season, according to data provider OAG Aviation.

And though daily tracking by Eurocontrol shows flight numbers trailing the pre-pandemic era in Europe, global flight numbers collated by Flightradar24 remain comfortably above 2019 levels. In China, air passenger traffic jumped to just over 62 million in July amid strong summer travel demand, the highest monthly total going back to early 2006 in data from the country's Civil Aviation Administration.


"Oil demand is still very, very strong," Amrita Sen, director of research at Energy Aspects, said in an interview. "Saudi Arabia will keep supplies in check to ensure that inventories continue to draw."

The Bloomberg oil-demand monitor uses a range of high-frequency data to help identify emerging trends. Following are the latest indicators. The first two tables shows fuel demand and road congestion, the next shows air travel globally and the last is refinery activity.

*To get Bloomberg's Energy Daily newsletter direct into your inbox, click here.*

| Demand Measure | Location | %vs 2022 | % vs 2021 | % vs 2020 | % vs 2019 | % m/m | Freq | Latest Date | Latest Value | Source |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline product supplied | US | -2.2 | -6.6 | -2 | -15 | -6.1 | w | Sept. 8 | 8.31m b/d | EIA |
| Distillates product supplied | US | +14 | -5.7 | +27 | -5.9 | -1.9 | w | Sept. 8 | 3.58m b/d | EIA |
| Jet fuel product supplied | US | +21 | +30 | +89 | +18 | +16 | w | Sept. 8 | 1.79m b/d | EIA |
| Total oil products supplied | US | +8.7 | +5.4 | +23 | -2 | -3.1 | w | Sept. 8 | 20.99 b/d | EIA |
| Car use | UK | +2.1 | +1 | +4.3 | -3 | +1 | m | Sept. 11 | 97 | DfT |
| Heavy goods vehicle use | UK | +1.9 | -1.8 | +1.9 | +7 | +3.9 | m | Sept. 11 | 107 | DfT |
| All motor vehicle use index | UK | +3 | +2 | +5.2 | +2 | +2 | m | Sept. 11 | 102 | DfT |
| Gasoline (petrol) avg sales per filling station | UK | +6 | +2.4 | +3.5 | -3.8 | +1.4 | m | Week to Sept. 3 | 6,916 liters/d | BEIS |
| Diesel avg sales per station | UK | -2.2 | -9.6 | -11 | -21 | -5.6 | m | Week to Sept. 3 | 8,204 liters/d | BEIS |
| Total road fuels sales per station | UK | +1.3 | -4.4 | -4.6 | -14 | -2.5 | m | Week to Sept. 3 | 15,120 liters/d | BEIS |
| Diesel sales | India | +5.2 | | | | -3.2 | m | August | 6.67m tons | PPAC |
| Gasoline sales | India | +2.9 | | | | +2.9 | m | August | 3.09m tons | PPAC |
| Jet fuel sales | India | +14 | | | | +1.9 | m | August | 676k tons | PPAC |
| LPG sales | India | +3.1 | | | | +3 | m | August | 2.46m tons | PPAC |
| Total oil products | India | +6.5 | | | | +2.5 | m | August | 18.6m tons | PPAC |
| Gasoline deliveries | Spain | +7.9 | | | | +3.5 | m | August | 650k m3 | Exolum |
| Diesel (and heating oil) deliveries | Spain | -4.1 | | | | -6.4 | m | August | 2,137k m3 | Exolum |
| Jet fuel deliveries | Spain | +12 | | | | +2 | m | August | 721k m3 | Exolum |
| Total oil products deliveries | Spain | +1 | | | | -3.1 | m | August | 3,507k m3 | Exolum |
| Road fuel sales | France | -1.7 | | | | -3.8 | m | July | 4.195m m3 | UFIP |
| Gasoline sales | France | +5.2 | | | | | m | July | n/a | UFIP |
| Road diesel sales | France | -4.4 | | | | | m | July | n/a | UFIP |
| Jet fuel sales | France | +12 | | | | +9.9 | m | July | 768k m3 | UFIP |
| All petroleum products sales | France | +0.6 | | | | -1.9 | m | July | 4.77m tons | UFIP |
| All vehicles traffic | Italy | +1 | | | | -3 | m | August | n/a | Anas |
| Heavy vehicle traffic | Italy | -1 | | | | -17 | m | August | n/a | Anas |
| Gasoline sales | Italy | +7 | | | +11 | +6.9 | m | July | 779k tons | Energy Ministry |
| Transport diesel sales | Italy | +0.8 | | | -3 | +4.9 | m | July | 2.14m tons | Energy Ministry |
| Diesel/gasoil sales | Italy | +1 | | | -4 | +5.2 | m | July | 2.41m tons | Energy Ministry |
| LPG sales | Italy | +4.4 | | | -6 | +1.3 | m | July | 235k tons | Energy Ministry |
| Jet fuel sales | Italy | +22 | | | -4 | +16 | m | July | 488k tons | Energy Ministry |
| Total oil product sales | Italy | +1.8 | | | -6 | +6.7 | m | July | 4.75m tons | Energy Ministry |
| Gasoline consumption | Portugal | +21 | +24 | +33 | +17 | +21 | m | July | 116,347 tons | ENSE |
| Diesel consumption | Portugal | +12 | +8.8 | +12 | +3.1 | +9.5 | m | July | 456,555 tons | ENSE |
| Jet fuel consumption | Portugal | +1.2 | +87 | +292 | -4.5 | +1 | m | July | 159,480 tons | ENSE |
| Gasoline | Germany | -9.6 | | | -2 | | m | June | 1.51m tons | BAFA |
| Diesel | Germany | -7.3 | | | -7 | | m | June | 2.84m tons | BAFA |
| Heating oil | Germany | +27 | | | -18 | | m | June | 915k tons | BAFA |
| Jet fuel | Germany | +4 | | | -10 | | m | June | 832k tons | BAFA |
| Total oil product sales | Germany | -5.7 | | | -8.5 | | m | June | 7.53m tons | BAFA |
| % change in toll roads kms traveled | France | -0.8 | | | +1.3 | | m | August | n/a | Mundys |
| % change in toll roads kms traveled | Italy | +0.4 | | | +0.3 | | m | August | n/a | Mundys |
| % change in toll roads kms traveled | Spain | -0.5 | | | -3.5 | | m | August | n/a | Mundys |
| % change in toll roads kms traveled | Brazil | +3.7 | | | +9.2 | | m | August | n/a | Mundys |
| % change in toll roads kms traveled | Chile | -3.8 | | | +2 | | m | August | n/a | Mundys |
| % change in toll roads kms traveled | Mexico | +2.1 | | | +12 | | m | August | n/a | Mundys |

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

**City congestion:**

| Measure | Location | Sept. 11 | Sept. 4 | Aug. 28 | Aug. 21 | Aug. 14 | Aug. 7 | July 31 | July 24 | July 19 | July 10 | July 3 | June 26 | June 19 | June 12 | June 5 | May 29 | May 22 | May 15 | May 8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Congestion | Tokyo | 90 | 89 | 98 | 76 | 85 | 99 | 100 | 95 | 92 | 89 | 88 | 86 | 91 | 89 | 88 | 90 | 85 | 85 | 67 |
| Congestion | Taipei | 104 | 94 | 94 | 97 | 104 | 88 | 87 | 93 | 88 | 86 | 93 | 77 | 94 | 90 | 94 | 87 | 86 | 86 | 89 |
| Congestion | Jakarta | 64 | 67 | 68 | 55 | 68 | 68 | 70 | 58 | 67 | 74 | 47 | 66 | 69 | 67 | 57 | 69 | 60 | 69 | 69 |
| Congestion | Mumbai | 63 | 56 | 65 | 49 | 56 | 62 | 64 | 63 | 56 | 64 | 58 | 53 | 49 | 47 | 44 | 44 | 42 | 43 | 45 |
| Congestion | New York | 107 | 77 | 81 | 83 | 83 | 84 | 88 | 88 | 87 | 72 | 80 | 97 | 99 | 92 | 104 | 86 | 109 | 111 | 98 |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Congestion | Los Angeles | 93 | 83 | 97 | 86 | 89 | 90 | 85 | 86 | 87 | 69 | 81 | 87 | 86 | 86 | 88 | 77 | 93 | 98 | 90 |
| Congestion | London | 110 | 124 | 97 | 97 | 89 | 99 | 90 | 86 | 103 | 109 | 114 | 118 | 121 | 120 | 103 | 115 | 115 | 122 | 100 |
| Congestion | Rome | 102 | 59 | 29 | 19 | 29 | 56 | 76 | 85 | 96 | 107 | 76 | 105 | 121 | 114 | 99 | 124 | 121 | 122 | 123 |
| Congestion | Madrid | 79 | 54 | 23 | 15 | 17 | 26 | 42 | 52 | 60 | 65 | 72 | 79 | 83 | 90 | 88 | 90 | 84 | 81 | 77 |
| Congestion | Paris | 104 | 84 | 59 | 43 | 39 | 53 | 76 | 82 | 78 | 103 | 109 | 121 | 122 | 121 | 126 | 98 | 85 | 113 | 74 |
| Congestion | Berlin | 103 | 110 | 93 | 77 | 75 | 77 | 78 | 81 | 104 | 111 | 108 | 114 | 108 | 106 | 110 | 96 | 99 | 118 | 111 |
| Congestion | Mexico City | 86 | 84 | 77 | 79 | 66 | 65 | 64 | 60 | 67 | 67 | 69 | 67 | 70 | 75 | 75 | 76 | 81 | 74 | 73 |
| Congestion | Sao Paulo | 64 | 80 | 79 | 79 | 85 | 79 | 66 | 63 | 63 | 65 | 73 | 76 | 93 | 67 | 84 | 80 | 80 | 87 | 79 |

Source: TomTom. Click here for a PDF with more information on sources, methods

NOTE: TomTom changed its methodology for calculating traffic delays with data for Feb. 20 and no longer publishes comparisons with pre-Covid levels. We have therefore switched to using figures calculated by BNEF, which show 7-day moving average congestion indexed to average 2019 levels. See the linked PDF for more details.

**Air Travel:**

| Measure | Location | vs 2022 | vs 2021 | vs 2020 | vs 2019 | m/m | w/w | Freq. | Latest Date | Latest Value | Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | changes shown as % | | | | | | | | | |
| All flights | Worldwide | +15 | +19 | +56 | +13 | -1.2 | -0.3 | d | Sept. 11 | 233,738 | Flightradar24 |
| Commercial flights | Worldwide | +27 | +37 | +89 | +6.2 | -3.3 | +2.1 | d | Sept. 11 | 127,737 | Flightradar24 |
| Seat capacity per week | Worldwide | +16 | +41 | +96 | -2.2 | | -0.3 | w | Sept. 11 week | 111.8m seats | OAG |
| Air traffic (flights) | Europe | | | | -6.8 | +2.4 | -0.8 | d | Sept. 11 | 33,026 | Eurocontrol |
| Airline passenger throughput (7-day avg) | US | +8 | +38 | +201 | +7 | -10 | +2 | w | Sept. 10 | 2.29m | TSA |
| Air passenger traffic per month | China | +84 | +27 | +60 | +5.2 | +18 | | m | July | 62.4m | CAAC |
| Heathrow airport passengers | UK | +25 | +238 | +432 | -1.6 | -1.4 | | m | August | 7.55m | Heathrow |
| Rome % change in passengers carried | Italy | +25 | | | -8.9 | | | m | August | n/a | Mundys |

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

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

**Refineries:**

| Measure | Location | vs 2022 | vs 2021 | vs 2019 | m/m chg | Latest as of Date | Latest Value | Source |
|---|---|---|---|---|---|---|---|---|
| | | | Changes are in ppt unless noted | | | | | |
| Crude intake | US | +4.9% | +17% | -4 | +0.3% | Sept. 8 | 16.8m b/d | EIA |
| Utilization | US | +2.2 | +12 | -1.4 | -1 | Sept. 8 | 93.7% | EIA |
| Utilization | US Gulf | -2.6 | +19 | -4.5 | -2.2 | Sept. 8 | 92.1% | EIA |
| Utilization | US East | -4.8 | +5.6 | +25 | +0.3 | Sept. 8 | 92.2% | EIA |
| Utilization | US Midwest | +10 | +3 | -1.5 | +0.6 | Sept. 8 | 98.6% | EIA |
| Utilization (indep. refs) | Shandong, China | -0.5 | -5.1 | -0.1 | +0.6 | Sept. 15 | 63.36% | Oilchem |

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

**Previous versions:**

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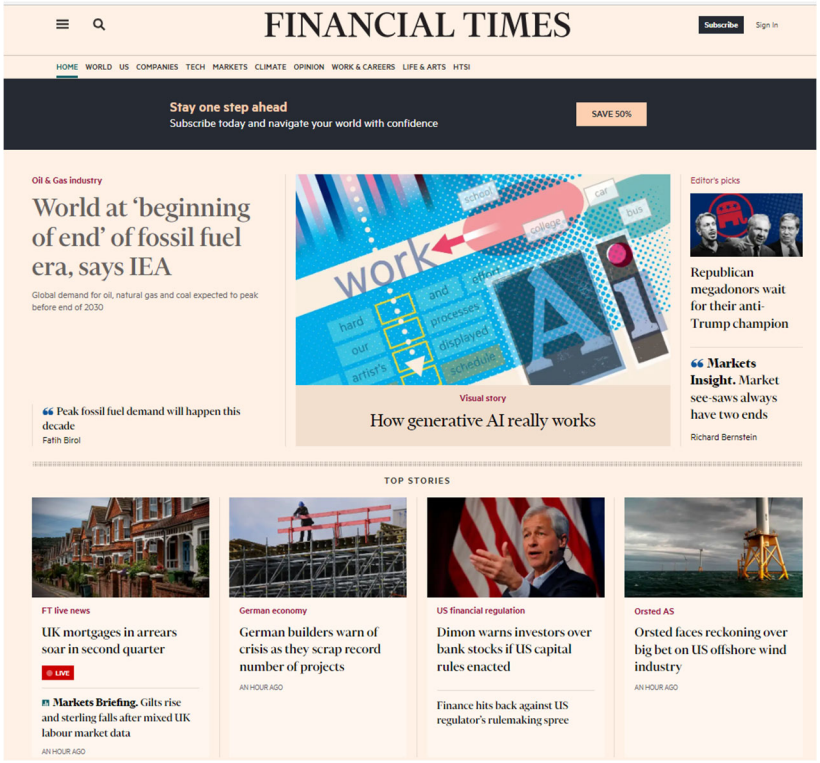


https://www.ft.com/content/f6155d7b-2ef7-4f62-a08a-b640b7e87fca?shareType=nongift

Opinion  Oil & Gas industry

# Peak fossil fuel demand will happen this decade

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

Fatih Birol YESTERDAY

The writer is executive director of the International Energy Agency

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

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

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

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

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

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

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

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

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

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

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

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

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

https://www.opec.org/opec_web/en/press_room/7217.htm

# OPEC Statement on peak fossil fuel demand

No 15/2023
Vienna, Austria
14 Sep 2023

**On the International Energy Agency's recent Op-Ed published on 12 September 2023, asserting that fossil fuel demand would peak before 2030, OPEC notes that consistent and data-based forecasts do not support this assertion.**

It is an extremely risky and impractical narrative to dismiss fossil fuels, or to suggest that they are at the beginning of their end. In past decades, there were often calls of peak supply, and in more recent ones, peak demand, but evidently neither has materialized. The difference today, and what makes such predictions so dangerous, is that they are often accompanied by calls to stop investing in new oil and gas projects.

"Such narratives only set the global energy system up to fail spectacularly. It would lead to energy chaos on a potentially unprecedented scale, with dire consequences for economies and billions of people across the world," says OPEC Secretary General, HE Haitham Al Ghais.

This thinking on fossil fuels is ideologically driven, rather than fact-based. It also does not take into account the technological progress the industry continues to make on solutions to help reduce emissions. Neither does it acknowledge that fossil fuels continue to make up over 80% of the global energy mix, the same as 30 years ago, or that the energy security they provide is vital.

Technological innovation is a key focus for OPEC, which is why Member Countries are investing heavily in hydrogen projects, carbon capture utilization and storage facilities, the circular carbon economy, and in renewables too. While some may suggest that a number of these oil-focused technologies are still immature, they ignore the fact that many technologies referenced in net-zero scenarios are at an immature, experimental or even theoretical stage.

In recent years, we have seen energy issues climb back to the top of the agenda for populations as many glimpse how experimental net zero policies and targets impact their lives. They have legitimate concerns. How much will they cost in their current form? What benefits will they bring? Will they work as hyped? Are there other options to help reduce emissions? And what will happen if these forecasts, policies and targets do not materialize?

Thankfully, there has been a reawakening across many societies of the need for energy security and economic development to go hand-in-hand with reducing emissions. In turn, this has led to a reevaluation by some policymakers on their approach to energy transition pathways.

"Cognizant of the challenge facing the world to eliminate energy poverty, meet rising energy demand, and ensure affordable energy while reducing emissions, OPEC does not dismiss any energy sources or technologies, and believes that all stakeholders should do the same and recognize short- and long-term energy realities," says HE Al Ghais.

In the interests of contributing to future overall global energy stability, OPEC will continue to cooperate with all relevant stakeholders to foster dialogue, that includes the views of all peoples, so as to ensure inclusive and effective energy transitions moving forward.

https://www.linkedin.com/in/mads-nipper-7b6a31/recent-activity/all/

Mads NipperMads Nipper• 2nd• 2ndGroup CEO at ØrstedGroup CEO at Ørsted

2d • 2d •

Life is full of paradoxes!

During the first six months of this year, 11.8 GW of offshore wind capacity was awarded through tenders in Europe. And yet, the European Wind Industry is not in a good state: Capital and raw material costs are high, which challenges both the supply chain and project realization.

We in the industry should continue taking responsibility to develop the sector in a direction with higher financial viability. Investing in the supply chain and long-term procurement contracts are part of the solution.

But I firmly believe that also politicians need to thoroughly reflect on, whether the incentives given to offshore wind developers and suppliers today, are truly in line with Europe's political objectives of tomorrow.

Today I was therefore very encouraged to hear Ursula von der Leyen in her state of the union speech, highlight the need for a European Wind Power Package, addressing permitting, auction design as well as skills, access to finance and stable supply chains.

I firmly believe that we need to have a 360 degree assessment of how auctions are designed:

First, before the actual competitive element of the bid, strict minimum criteria should be put in place to ensure project delivery and a level playing field. Such criteria could address societal benefits such as human rights requirements, sustainability and environmental performance.

Second, in the design of the actual bid, non-price factors should play a larger role than today. Competing only on price risks leading to a race to the bottom.

Third, once a site has been awarded, more emphasis needs to be put on project delivery. We should ensure that when seabed is allocated, projects are delivered within a reasonable time frame.

Lastly, given the high uncertainty surrounding both the cost side and future electricity prices, revenue stabilization in the form of two-way CfDs will have to play a larger role in coming years.

As President von der Leyen said in her speech, "the wind sector is a European success story".
If and when we do things right, new and exciting chapters will be added to that story for years to come!

https://economictimes.indiatimes.com/industry/energy/power/25-30-gw-more-thermal-capacity-may-be-needed/articleshow/103699719.cms

# '25-30 GW more thermal capacity may be needed'

ET Bureau Last Updated: Sep 16, 2023, 12:34 AM IST

**Synopsis**

**India will also launch a pilot project using green hydrogen as storage for round the clock power having a capacity of 100 MW, Singh said. The current cost, as per preliminary calculations, of such a storage based power is ₹6 per unit, which is cheaper compared with last two months' average price of ₹8/unit on the power exchanges, Singh said.**


India may need to add 25-30 GW of thermal power capacity over the 49 GW already planned or under construction to meet future requirements, power minister RK Singh said on Friday. The country's electricity demand is rising and will continue to grow, he said.

"We will make available the electricity required for our growth and we are not going to default on that," Singh added

Currently, India doesn't have round the clock renewable power so thermal power plants are required, he said at the Fourth International Conference & Exhibition on Clean Energy, organised by CII.

India also has an ambitious target of 500 GW of non-fossil fuel based power capacity by 2030.

For renewable energy, 88 GW of capacity is currently under construction and around 180 GW capacity is established as on date, Singh said.

The government has already laid down a strategy to add 50 GW of renewable energy capacity annually for five years starting this financial year.

India will also launch a pilot project using green hydrogen as storage for round the clock power having a capacity of 100 MW, Singh said.

The current cost, as per preliminary calculations, of such a storage based power is ₹6 per unit, which is cheaper compared with last two months' average price of ₹8/unit on the power exchanges, Singh said.

"If this is successful then it will establish a benchmark," he said.

India will be the largest producer of green hydrogen and ammonia in the world and the largest exporter because it has the cheapest renewable power, he said adding that the country has already amassed substantial manufacturing capacity for it, positioning itself as a global leader in this sector.

He said that the recent memorandum of understanding with Saudi Arabia on energy will bring investment in India in the sector and also encourage investment by Indian companies in the Middle East nation.

https://www.pm.gc.ca/en/news/news-releases/2023/09/14/fighting-for-the-middle-class

# Fighting for the middle class

September 14, 2023
London, Ontario

A strong middle class means a strong Canada. At a time when global inflation has driven up the cost of necessities like groceries, and housing costs are too high for too many, people are worried about their families. The Government of Canada has been working to put more money back in the pockets of middle-class Canadians and remove barriers to build more homes, faster to drive down the cost of housing – and there's more to do.

The Prime Minister, Justin Trudeau, today announced a suite of new measures to support the middle class and people working hard to join it. This includes action to build more rental housing, provide relief to small business owners, and drive down the cost of groceries.

To continue taking urgent action to drive down the cost of housing across the country, including for renters, the federal government:

- will incentivize the construction of much-needed rental homes by introducing legislation to remove the Goods and Services Tax (GST) on the construction of new apartment buildings for renters. This is another tool to create the necessary conditions to build the types of housing we need, and that families want to live in.
- is calling on provinces that currently apply provincial sales taxes or the provincial portion of the Harmonized Sales Tax (HST) to rental housing to join us by matching our rebate for new rental housing.
- will require local governments to end exclusionary zoning and encourage building apartments near public transit in order to have their Housing Accelerator Fund applications approved.

To support small business owners and their workers, who are at the heart of our communities and our economy, the Prime Minister also announced the government:

- will make changes to the Canada Emergency Business Account program, a pandemic measure that helped small businesses stay afloat, including by extending the term loan repayment deadline by one year.

To address the escalating price of groceries for people, the Prime Minister announced that the government:

- is calling for major grocery store chains to stabilize grocery prices in the near term. In recent years, large grocers have been making more money, all while the cost of groceries has risen drastically and families are struggling to put food on their tables. To address this, the leaders of the largest grocery chains in Canada have been called to an immediate meeting in Ottawa to begin discussions toward this goal. We are also looking at all tools at our disposal, and we are not ruling out the use of tax measures, in order to restore the grocery price stability that Canadians expect.

- will take immediate steps to enhance competition across the Canadian economy, with a focus on the grocery sector, which would help drive down costs for middle-class Canadians. The government intends to introduce a first set of legislative amendments to the *Competition Act* to:
    - provide the Competition Bureau with powers to compel the production of information to conduct effective and complete market studies;
    - remove the efficiencies defence, which currently allows anti-competitive mergers to survive challenges if corporate efficiencies offset the harm to competition, even when Canadian consumers would pay higher prices and have fewer choices; and
    - empower the Bureau to take action against collaborations that stifle competition and consumer choice, in particular situations where large grocers prevent smaller competitors from establishing operations nearby.

Since 2015, the federal government has been working hard to put more money back in the pockets of Canadian families through the Canada Child Benefit, a middle class tax cut, and in the next few years, $10-a-day regulated child care on average right across the country. Last summer, during a period of the highest inflation in a generation, we acted fast to deliver relief to those who needed it most. As global inflation and the cost of housing continue to impact Canadians, we are continuing to take real action to make life more affordable and build an economy that works for everyone.

**Quotes**

“We made a commitment to stand up for the middle class, and we will not stop fighting until everyone has a real and fair chance to succeed. As we head into a new Parliamentary session next week, we remain focused on the things that matter most to Canadians: making life more affordable and creating good, middle-class jobs now and into the future.”

The Rt. Hon. Justin Trudeau, Prime Minister of Canada

“Our priority since 2015 has been to build a strong middle class so everyone can succeed, but there is more work left to do. The measures we are announcing today will make it easier to build more of the homes Canadians need and ensure our businesses and their employees can thrive—and we will continue working to deliver for Canadians from coast to coast to coast.”

The Hon. Chrystia Freeland, Deputy Prime Minister and Minister of Finance

“We need to change the economic equation so builders who are facing higher construction costs as a result of global inflation have the financial incentive to build projects that wouldn’t otherwise go forward. Removing the GST will encourage Canadian home builders to build more homes in communities across Canada, which will bring the cost of rent down for ordinary Canadians in communities across the country.”

The Hon. Sean Fraser, Minister of Housing, Infrastructure and Communities

“Our government is taking concrete actions to stabilize food prices and improve competition in Canada. That’s why the industry needs to step up with meaningful solutions. But that’s not all. We also need updated tools to modernize our competition environment. Our government will continue to work day-in and day-out to bring relief to consumers and increase competition.”

The Hon. François-Philippe Champagne, Minister of Innovation, Science and Industry

**Quick Facts**

- To build more rental housing, the removal of GST will apply to new purpose-built rentals, meaning apartment buildings, student housing, and senior residences built specifically for long-term rental accommodation.
- Launched in March 2023, the Housing Accelerator Fund is a $4 billion initiative from the Government of Canada that will run until 2026-27. It is designed to help cities, towns, and Indigenous governments unlock new housing supply – about 100,000 units total – by speeding up development and approvals, like fixing out-of-date permitting systems, introducing zoning reforms to build more density, and incentivizing development close to public transit. Local governments are encouraged to think big and be innovative in their approaches.
- Launched during the pandemic, the Canada Emergency Business Account program provided interest-free, partially forgivable loans to nearly 900,000 small businesses and not-for-profit organizations to help them stay afloat and continue to contribute to our communities.
- Today’s announcement builds on other recent measures to make life more affordable for Canadians, including:
    - Doubling the Goods and Services Tax Credit for six months to deliver immediate support to approximately 11 million low-and modest-income Canadians who need it most, and provide a one-time top-up of $500 to the Canada Housing Benefit, delivering $402 million to more than 500,000 individuals and 303,000 families as of June 7, 2023.
    - Making the Grocery Rebate available to approximately 11 million eligible low- and modest-income Canadians and families hardest hit by rising food prices across the country, with rebates ranging $234 for singles without children to $467 for families with two kids.
    - Enhancing the Canada Workers Benefit by introducing automatic advance payments, to put money in the pockets of Canada’s lowest-paid—and often most essential workers—faster.
    - Delivering regulated child care for $10-a-day on average in every province and territory in the coming years, and supporting the creation of more child care spaces by the Government of Quebec. Additionally, thousands of much-needed child care spaces have already been created in communities from coast to coast to coast.
    - Making Canada Student Loans and Canada Apprentice Loans, including those currently being repaid, permanently interest-free, helping an average student loan borrower save $610 per year, based on current interest rates.
    - Increasing the federal minimum wage from $15.55 to $16.65 per hour, to keep pace with inflation and help make life more affordable for approximately 26,000 Canadian workers across the country.
    - Increasing Old Age Security benefits for seniors age 75 and older by 10 per cent as of July 2022, providing more than $800 in additional support to full pensioners.
- A broad consultation on the future of the *Competition Act* was first announced in Budget 2022, and undertaken in 2023. The government plans to introduce comprehensive legislative reforms to the *Competition Act* in the coming months.

# 1 Introduction

Having access to housing that's affordable is important for everyone in Canada. But, to reach an adequate level of affordability, we need to increase housing supply. By how much? We've decided to update last year's estimate of how much housing supply we need if we're going to reach the target set out in last year's report: levels of affordability last seen around 2004.

Last year, we estimated that an additional 3.5 million housing units beyond what we projected would be built anyway under our "business-as-usual" (BAU) scenario would be needed by 2030 to reach this affordability target. Those 3.5 million additional units are what we call the "housing supply gap."

This year, in our baseline economic and demographic scenario, we're still projecting 3.5 million additional housing units will be needed. However, the size of the supply gap has changed across provinces. In some, like Ontario, lower projected growth in income per household will lower demand for housing. In others, like Quebec and Alberta, we project growth in incomes will rise proportionately more. As a result, more housing will be needed.

Immigration to Canada is currently at higher levels than forecasted. Still, we project that the number of households in the country won't be significantly higher in 2030 than last year's projection. Our baseline projection shows population growth falling back after the current policy ends in 2025.

In this year's updated report, we explore two additional scenarios beyond our baseline scenario: a *high-population-growth* scenario and a *low-economic-growth* scenario.

Our high-population-growth scenario examines what will happen to the housing supply gap if current immigration trends continue to 2030. In short, we find that the gap would increase from 3.5 million to 4 million housing units. This is because the higher population, and larger pool of income it brings, increase demand for housing.

Our low-economic-growth scenario looks at what will happen if economic growth is weaker than in our baseline scenario and current immigration policies end in 2025. In this case, we find that the housing supply gap falls to 3.1 million units.

## 2.2 Demographic projection

As well as being affected by economic factors, demand for housing increases as the number of households does. The number of households, meanwhile, is affected by a range of factors. These include overall growth in the population, movements in the population across Canada, changes in immigration levels, changes in the rate of family formation and in those who want to form households.

We take population projections from Statistics Canada and Oxford Economics to project the number of households, with adjustments to reflect recent population changes. We translate changes in population into household counts by using Census data from Statistics Canada on various population dynamics (a household is a person or group of persons who occupy the same dwelling). Table 1 shows projected demographic data in this report and last year's, as well as household numbers in our high-population-growth scenario, discussed further in this report.

Recent population changes have been largely driven by policy changes to attract a greater number of immigrants and non-permanent residents. We assume that a significant proportion of the short-term increase in immigration was at least partially driven by the pulling forward of immigrants from future years (in other words, by accelerating the arrival of immigrants who would've arrived anyway, but later). This may come about by, for example, faster processing of applications and increasing the acceptance rate of those who had already entered Canada as, for example, students.

The government has not yet determined the long-term level of immigration until 2030. For this reason, Statistics Canada and Oxford Economics project a relatively sharp decline in growth in the overall population in the years up to 2030. As a result, in this year's analysis, Canada's projected 2030 population of around 43 million people isn't significantly higher than last year's projection.

In our new projections, we lower the number of households in provinces like Alberta and Ontario by 2030 (in line with trends for Canada). But there are proportionately greater increases in household numbers in British Columbia, Quebec and the Atlantic Provinces. In addition to immigration changes, these population changes also reflect recent migration patterns set in motion during the pandemic.

As has now been well documented in Canada, housing supply responds slowly to increases in demand. So, while immigration can increase rapidly, housing takes many years to adjust to any unanticipated increases in demand.

The effect of increasing immigration is less if a greater proportion of those accepted as immigrants come from the pool individuals currently in Canada as non-permanent residents. Since they are already in Canada, these individuals wouldn't contribute to demand.

**Table 1: Core demographic data**

| | 2023, Housing gap report 2022 | 2023, Housing gap report 2023 | 2030, Housing gap report 2022, Baseline | 2030, Housing gap report 2023, Baseline | 2030, Housing gap report 2023, High-population-growth scenario |
|---|---|---|---|---|---|
| **Population** | 38.8m | 38.9m | 42.8m | 43.0m | 44.1m |
| **Household** | 15.5m | 15.7m | 17.6m | 17.7m | 18.0m |

Source: CMHC calculations based on Oxford Economics, Statistics Canada and CMHC (2022) data.

The patterns observed above lead to a complicated picture of the evolution of projected housing demand between this year's report compared to last year's:

- For British Columbia, higher estimated household numbers in 2030 and slightly lower estimated income per household lead to a relatively neutral impact on overall demand. Still, the supply gap increases because of a lower projected number of housing units that will be built.
- For Ontario, the combination of fewer households in 2030 compared to the number estimated last year and less growth in income per household leads to less household demand and, in turn, to a lower supply gap.
- For Quebec, increased household numbers and increased income per household lead to higher demand, while the projection for housing supply is lowered. Result: the supply gap increases.
- For Alberta, higher growth in household income and a small drop in household numbers lead to an overall increase in housing demand. In contrast, there's a sharper decrease in housing starts compared to other large provinces. This combination of factors leads to a significant increase in the supply gap. Still, the gap remains low compared to other provinces.
- In Manitoba and Saskatchewan, the supply gap falls, since both household numbers and income per household are projected to be lower in 2030 compared to last year's projections.
- While most of the Atlantic provinces have a relatively high degree of affordability, increased population growth will drive demand for housing higher. Result: the supply gap for Nova Scotia has increased compared to last year.

For the purposes of this report, we define affordability in terms of the share of after-tax income that a household with average income would need to spend to buy the average house. The target is, by 2030, to return affordability to levels last seen around 2004, before the price growth that many Canadians have faced in the last decade and more. This approach also assumes that increases in house prices are passed through to increases in rents.

However, even a return to those levels of affordability would likely still mean that significant housing affordability challenges would remain for many low-income households. CMHC recognizes, in other work, the affordability challenges faced by such households.

# 3 We examine two additional scenarios for 2030

We looked at two additional scenarios of what could happen to Canada's economy and demographic structure by 2030. We compare them to the **baseline** projections described above. Our intent with these two other scenarios is to show the sensitivity of the housing market to changes in either Canada's economy or its population.

In the **low-economic-growth** scenario: 1) productivity growth is lower, holding down Canada's potential output; and 2) inflation remains above the Bank of Canada's target. The Bank's policy rate falls only to 3%, rather than the 2.5% from our baseline scenario.

Consumer demand remains weak, at least partly reflecting the impact of higher interest rates on Canada's large outstanding household debt. The mortgage rate would be 5.7% in this scenario. These factors lower the demand for housing directly and raise the cost of purchasing a home. In this scenario, we keep the demographic picture the same as in the baseline scenario.

The **high-population-growth** scenario looks at changes to the demographic structure including a permanent increase in the level of immigration to Canada. The government is currently targeting immigration growth only for the next couple of years. However, the high-population-growth scenario is intended to reflect Canada's traditional approach of welcoming immigrants at a relatively constant proportion of its population.

This shows Canada's population reaching over 44 million by 2030 (Table 1), which represents annual immigration levels of around 600,000 to 700,000 individuals. The scenario doesn't represent government policy. It's intended only to illustrate the impact of recent trends. Having a larger population will put upward pressure on house prices. But it will have a more limited impact on income per household, because immigrants may not all be in high-earning occupations.

**Table 5: Supply gaps by scenario, 2030, millions of housing units**

| | Baseline | Low-economic-growth | High-population-growth |
|---|---|---|---|
| Ontario | 1.48 | 1.31 | 1.65 |
| Quebec | 0.86 | 0.77 | 1.09 |
| British Columbia | 0.61 | 0.55 | 0.69 |
| Alberta | 0.13 | 0.13 | 0.17 |
| Manitoba | 0.17 | 0.15 | 0.18 |
| Saskatchewan | 0.06 | 0.06 | 0.08 |
| Nova Scotia | 0.07 | 0.06 | 0.07 |
| New Brunswick | - | - | - |
| Newfoundland and Labrador | 0.06 | 0.03 | 0.07 |
| Prince Edward Island | - | - | - |
| Canada | 3.45 | 3.07 | 4.01 |

Source: CMHC calculations. Numbers may not add up because of rounding.

These impacts are relatively consistent across provinces. In the low-economic-growth scenario, the supply gap declines less in Alberta because of the lower responsiveness there of housing demand to income growth. In the high-population-growth scenario, more housing supply will be needed in Alberta and Quebec. This is because an increasing number of immigrants will go to those provinces, since housing is so much cheaper there than in British Columbia and Ontario.

# 4 Conclusions and next steps

This report again highlights how important it is to increase housing supply if we are to make housing affordable for everyone in Canada. It also highlights how important it is to study both economic and demographic variables given the recent changes that have been experienced in both.

We continue to work on improving our understanding of the drivers of housing demand and supply. We're working on incorporating into our analysis the impact of population mobility across regions and provinces. We'll also seek to provide greater detail on the number of rental units needed to reach affordability and on the distribution of impacts across income quintiles. We expect these results to be available early next year.

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SAF

**Dan Tsubouchi** @Energy_Tidbits · 24m

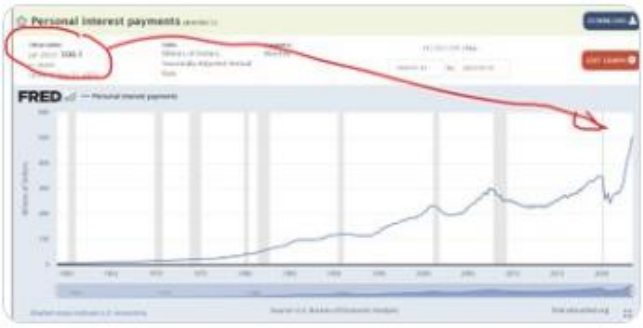
Ouch!

reminder below FED graph of personal interest payments is July ie. before have to start payments in Oct linked to ~$1.8 trillion of US student debt.

July 2023 was $506.1 billion was up $1.67.4 billion YoY.

Excludes mortgage interest.

#OOTT
fred.stlouisfed.org/series/B069RC1




1 2 401

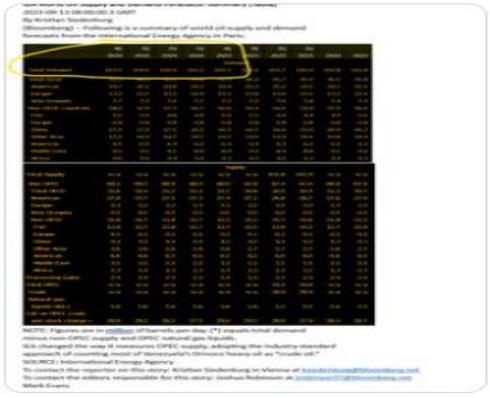
SAF

**Dan Tsubouchi** @Energy_Tidbits · 4h

Reminder from @Amena__Bakr - Saudi was looking ahead to Q1/24 deliveries when extended 1 mmbd cut thru Dec to avoid inventory build.

#IEA Sept OMR foasts Q1/24 #Oil demand to be down -1.4 mmbd QoQ vs Q4/23.

Thx @business @gulf_intel.
#OOTT



> **Gulf Intelligence** @gulf_intel · Sep 15
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> 
>
> **Mashreq 60-Second SoundBite:**
>
> "The Saudis extended oil supply cuts until the end of the year to manage build-up of inventory levels!" - @Amena__Bakr @energyintel...

2 7 1,817

**Dan Tsubouchi** @Energy_Tidbits · 12h

India says need more #Coal power than under construction and planned.
"*We will make available the electricity required for our growth and we are not going to default on that*"

Priority is reliable, affordable & available power, which means more coal.

#EnergyTransition #OOTT

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Synopsis

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Currently, India doesn't have round the clock renewable power as thermal power plants are required, he said at the Fourth International Conference & Exhibition on Clean Energy, organised by Cll.

India also has an ambitious target of 500 GW of non-fossil fuel based power capacity by 2030.

For renewable energy, 80 GW of capacity is currently under construction and around 100 GW capacity is established as on date, Singh said.

The government has already laid down a strategy to add 50 GW of renewable energy capacity annually for five years starting this financial year.

India will also launch a pilot project using green hydrogen as storage to round the clock power having a capacity of 100 MW, Singh said.

The current cost, as per preliminary calculations, of such a storage based power is ₹5 per unit, which is cheaper compared with last two months' average price of ₹9/unit on the power exchanges, Singh said.

"If this is successful then it will establish a benchmark," he said.

India will be the largest producer of green hydrogen and ammonia in the world and the largest exporter because it has the cheapest renewable power, he said adding that the country has already amassed substantial manufacturing capacity for it, positioning itself as a global leader in this sector.

He said that the recent memorandum of understanding with Saudi Arabia on energy will bring investment in India in the sector and also encourage investment by Indian companies in the Middle East nation.

4 · 17 · 2,533

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**Dan Tsubouchi** @Energy_Tidbits · 17h

North Dakota #Bakken insights from NDIC Lynn Helms podcast.

See 👇 SAF transcript.

2.5 yrs since hit 1.18 mmbd in July, 1.2 mmbd is in sight.

33 rigs is enough to keep production flat but not to create 1-2%/yr growth.

Completions of DUCs drove the production increase

#OOTT


SAF Group created transcript of comments by North Dakota Oil and Gas Division's director, Lynn Helms, on the podcast for September 2023 Director's Cut and July 2023 Production Numbers.
https://podcasts.apple.com/us/podcast/north-dakota-oil-and-gas/id1468639877

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

North Dakota July production was 1.18 mmbl/d and Helms sees 1.2 mmbl/d in sight. At 0:55 min mark, Helms "*we talked about we think we'll get to 1.2 mmbl/d by the end of the year, it looks like it's really in sight.*" "*I did look back and it has been more than 2.5 years since we hit 1.18 mmbl/d*".

Enough drilling rigs to keep production flat. At 4:50 min mark, Helms "*Those 33 rigs working today are still capable of punching out 65-70 wells in a month. So that's enough to maintain production but it isn't enough to create strong growth, more than 1 or 2% annual. So still a little on the low side.*"

Completions of DUCs has driven the production increase. At 5:10 min mark, Helms "*On the wells permitted, the 87 wells that we issued permits for in August, that would represent 2.64 wells per rig per month so that's more than they can drill. So they are building an inventory towards the winter. And on the completions side, as you see. That's increasing with 91 completions and that brought our waiting on completion list down and we've been seeing that trend all summer longs s the people that had a lot of DUC wells are getting those wells put on production. That's really what's driving the production increase.*"

Prepared by SAF Group

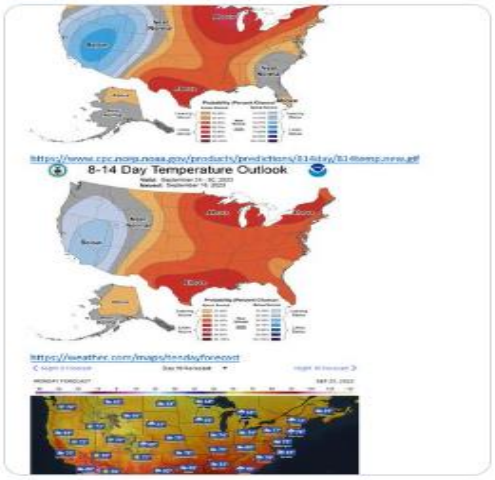
1 · 3 · 13 · 2,672

**Dan Tsubouchi** @Energy_Tidbits · 19h

Today's @NOAA updated 6-10 & 8-14 day temperature outlook covering Sept 22-30.

As move into late Sept, above normal temps aren't normally above 80F other than in the south.

Shouldn't do much for #NatGas.
#OOTT




1 2 2 2,305

**Dan Tsubouchi** @Energy_Tidbits · Sep 16

Support for #Oil prices

#Vortexa crude #Oil floating storage at 09/15 est 81.06 mmb, -11.35 mmb WoW vs revised up by +12.07 09/08 of 92.41 mmb.

Last 4 week average is 85 mmb, down whopping 45 mmb vs recent 06/23/23 peak 130 mmb.

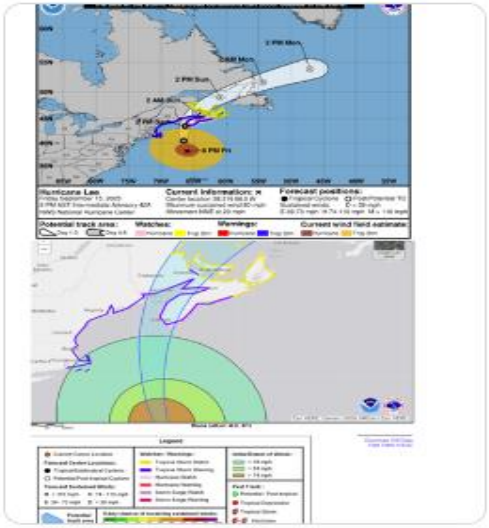
Thx @Vortexa @business.
#OOTT

2 9 38 5,766

**Dan Tsubouchi** @Energy_Tidbits · Sep 15

Hurricane Lee expected to hit Nova Scotia tomorrow at Tropical Storm strength.

Hope everyone can stay safe!



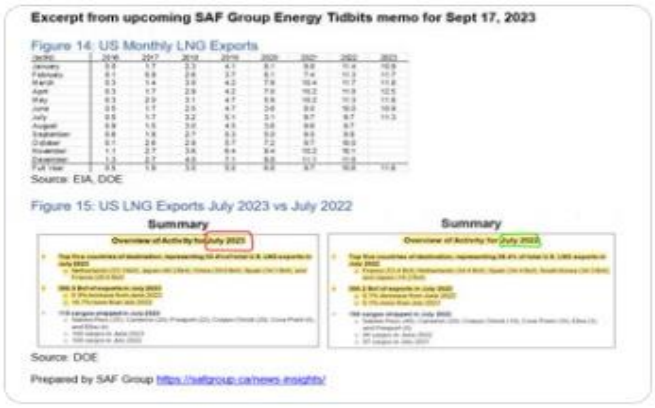
1 · 5 · 1,415

**Dan Tsubouchi** @Energy_Tidbits · Sep 15

US #LNG exports July/23 up MoM w/ less maintenance to 11.3 bcfd vs Jun/23 of 10.9 bcfd

July/23 top 5 export mkts: Dutch, Japan, China, Spain, France. July/22: France, Dutch, Spain, Korea, Japan

This DOE LNG data is posted 2 wks before same data in @EIAgov #NatGas Monthly
#OOTT




1 · 2 · 7 · 2,798

SAF

**Dan Tsubouchi** @Energy_Tidbits · Sep 15

Also note MBS "refuses to sacrifice Riyadh's relations with any other world powers in exchange for potential deals. When he engages with China, strengthens relations with Moscow, or participates in the deliberations of the BCRICS block, he does so with the aim of advancing the... Show more

> **Saudi Gazette** @Saudi_Gazette · Sep 15
> #OPINION: "It is certain that #SaudiArabia will not provide the American Democrats an "achievement" without conditions that serve its pure national interests," @JameelAlTheyabi writes saudigazette.com.sa/article/635844

1 · 3 · 6 · 3,215

SAF

**Dan Tsubouchi** @Energy_Tidbits · Sep 15

Canada housing shortage.

Don't have to be a housing analyst or demographer to read CHMC assumptions & think high case 4.01 mm short might be better than base case 3.45 mm short.

Base and even high case are way less than 2022 immigrant & non-permanent resident levels.

1 · 3 · 5 · 2,104

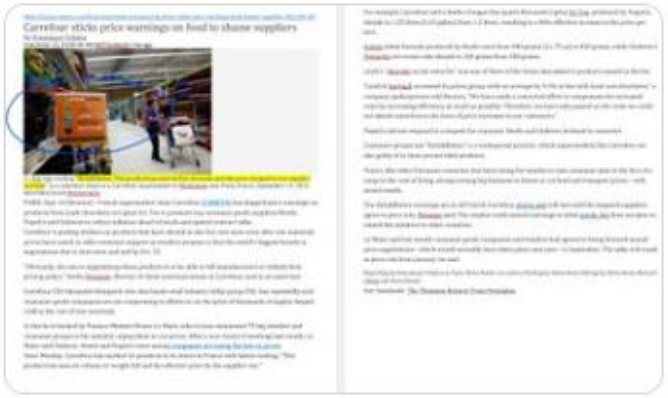
SAF

**Dan Tsubouchi** @Energy_Tidbits · Sep 15

"*Shrinkflation, This product has seen its liter decrease and the price charged by our supplier increase*"

Will Carrefour's (France) shrinkflation signs be coming to Canada with @JustinTrudeau calling out grocers.

Grocers won't want to take all the blame.




3 · 4 · 2,156

SAF

**Dan Tsubouchi** @Energy_Tidbits · Sep 15

"*we need to take of our interests*" says Turkey before can restart Iraq/Kurdish #Oil exports

- Iraq owes $950mm re ICC arbitration, net of damages Turkey has to pay Iraq
- Iraq to withdraw 2nd arbitration case
- negotiate a reduced payment

What else does Turkey need?

#OOTT

Iraq-Turkey oil pipeline ready to resume operations soon –Turkish minister

1 3 1,909

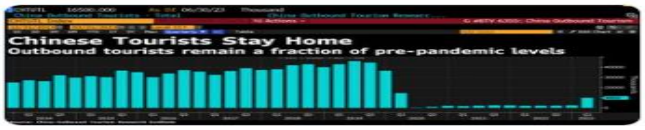
SAF

**Dan Tsubouchi** @Energy_Tidbits · Sep 14

IF Chinese consumer ever gets confidence to start spending, there should be a good lift to economy/activity/#Oil in 2024.

But until then, "*Chinese tourists stay home. Outbound tourists remain a fraction of pre-pandemic levels*"

Graph just now from @SheryAhnNews @HaidiLun
#OOTT




**Dan Tsubouchi** @Energy_Tidbits · Sep 11

Chinese "are cautious & lack confidence in the future so they tend to spend, maybe not less, but wouldn't spend much more than before" Victor Yang to @sean_evers @gulf_intel podcast.

1 1 17 4,274

SAF

**Dan Tsubouchi** @Energy_Tidbits · Sep 14

#OPEC: extremely risky to say #FossilFuels are soon to end but "*what makes such predictions so dangerous, is that they are often accompanied by calls to stop investing in new oil & gas projects*" "*such narratives only set the global energy system up to fail spectacularly*"

#OOTT

**OPEC Statement on peak fossil fuel demand**

2 9 39 8,395

SAF

**Dan Tsubouchi** @Energy_Tidbits · Sep 14

Still long way to go for China economy.

6th consecutive WoW increase in China Baidu city-level road congestion.

But MTD Sept 2023 for Top 15 cities, in aggregate, is only 88% of Sept 2021.

Shanghai down big YoY. Beijing basically flat YoY.

Thx @BloombergNEF.

#OOTT


5 12 2,966

SAF

**Dan Tsubouchi** @Energy_Tidbits · Sep 13

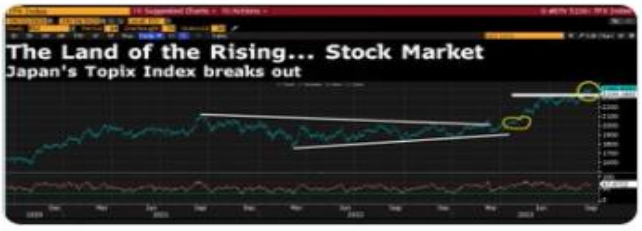
The @WarrenBuffett effect has been great for Japan stocks.

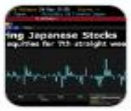
Apr 11. Topix closed 1,992, last time below 2,000.

Apr 12. His bullish Japan trading stocks interview with @BeckyQuick @SquawkCNBC

See 👇 @business graph Topix breaks out!

#OOTT




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

1 3 3,835

**Dan Tsubouchi** @Energy_Tidbits · Sep 13

Iran #Oil "since the start of the year UNTIL Aug is up by 600,000 b/d" "*we're not factoring in further increases in Iranian supplies*" says @IEA Toril Bosoni to @flacqua.

See 👇 08/13 tweet, this is what Iran has saying AND that Iran is adding more oil in Aug.

#OOTT


> **Dan Tsubouchi** @Energy_Tidbits · Aug 13
>
> 
>
> Near term Oil hold back.
>
> Another Iran reminder today that at 3.2 mmb/d & to exceed 3.3 mmb/d by late Aug.
>
> ...

1 · 1,926

**Dan Tsubouchi** @Energy_Tidbits · Sep 13

For those not near their laptops. At 930am MT, @EIAgov released its #Oil #Gasoline #Distillates inventory as of Sept 8. Table below compares EIA data vs @business expectations and vs @APIenergy yesterday. Prior to release, WTI was $88.75. #OOTT

**Oil/Products Inventory Sept 8: EIA, Bloomberg Survey Expectations, API**

| (million barrels) | EIA | Expectations | API |
|---|---|---|---|
| Oil | 3.96 | -2.48 | 1.17 |
| Gasoline | 5.56 | -0.85 | 4.21 |
| Distillates | 3.93 | 1.40 | 2.59 |
| | 13.45 | -1.93 | 7.97 |

Note: Oil is commercial so builds in a build of 0.3 mmb in SPR for the Sept 8 week
Note: Included in the oil data, Cushing had a 2.45 mmb draw for Sept 8 week
Source EIA, Bloomberg
Prepared by SAF Group https://safgroup.ca/news-insights/

4 · 1,252

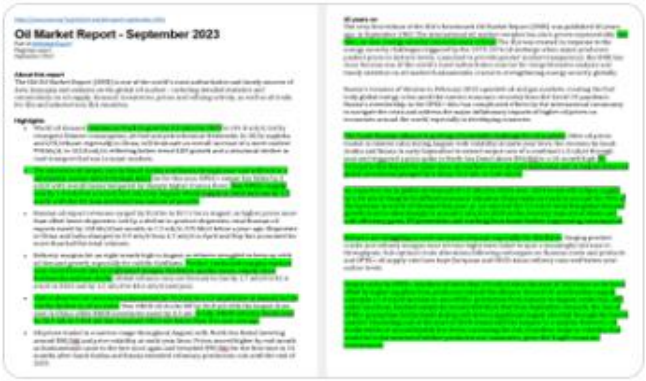
**Dan Tsubouchi** @Energy_Tidbits · Sep 13

"The Man" Saudi Energy Min Abdulaziz knows #Oil markets!

Oil would normally be down as @IEA OMR cuts demand forecast for 2023 & 2024, increases non-OPEC supply.

But IEA warns extension of Saudi & Russia cuts "*will lock in substantial market deficit through 4Q23*".

#OOTT


Oil Market Report - September 2023

1 · 13 · 26 · 6,253

**Dan Tsubouchi** @Energy_Tidbits · Sep 13

China weakness.

Biggest WoW decrease in China schedule domestic flights since Jan at -5.0% WoW to 98,469. And this was post Typhoon Saola on Aug 31.

But expect big boost in air travel with 7-day National Day holidays end of Sept.

Thx @BloombergNEF Claudio Lubis. #OOTT


2 · 8 · 2,440

**Dan Tsubouchi** @Energy_Tidbits · Sep 12

#OPEC Sept MOMR

No change in #Oil demand YoY growth.

Minor increase in non-OPEC supply YoY growth.

Saudi 1 mmb/d July cuts working. July 31 oil stocks -190 mb vs 2015-19 ave. Aug MOMR had June 30 at -119 mmb vs 2015-19

Products stocks -77 mb vs 2015-19 (was -49mb)

#OOTT

1 · 4 · 1,319

**Dan Tsubouchi** @Energy_Tidbits · Sep 12

Libya big #Oil ports reopening, no material damage.

*"Main ports of Es Sider, Ras Lanuf, Zueitina, Brega and Hariga resume operations after extreme weather that caused flooding in North African country, according to people familiar with the matter. " Facilities sustained no...* Show more

> **Dan Tsubouchi** @Energy_Tidbits · Sep 11
>
> Libya big #Oil ports closed for 3 days - Es Sider, Ras Lanuf, Zueitina, Brega.
>
> My 👇 map is ~18 mths old but should be close ie 690,000 b/d loading capacity is down
>
> Unknown is if any damage.
>
> Thx @AhmedElumami Ayman Al-Werfali
>
> #OOTT
>
> reuters.com/world/africa/p...
>
> 
> 

2 · 3 · 1,162

**Dan Tsubouchi** @Energy_Tidbits · Sep 11

Key call for #Oil – when will Chinese consumer get confidence in future to spend $trillions of excess savings?

See my 01/18/23 tweet/video. twitter.com/Energy_Tidbits... Blackstone CEO, Americans put $2.5T of extra money into bank accounts & that spending has driven US economy
#OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Sep 11
>
> Chinese "are cautious & lack confidence in the future so they tend to spend, maybe not less, but wouldn't spend much more than before" Victor Yang to @sean_evers @gulf_intel podcast.
>
> Fits 👇 08/31/23 post why China household savings keep going up.
>
> #OOTT twitter.com/gulf_intel/sta...
>
> 
> 

1 · 4 · 2,859

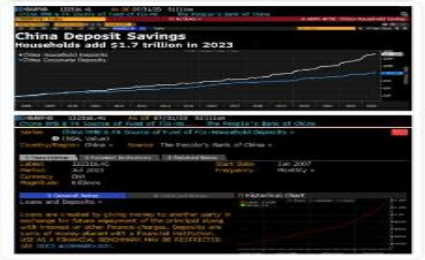
SAF

**Dan Tsubouchi** @Energy_Tidbits · Sep 11

Chinese "*are cautious & lack confidence in the future so they tend to spend, maybe not less, but wouldn't spend much more than before*" Victor Yang to @sean_evers @gulf_intel podcast.

Fits 👇 08/31/23 post why China household savings keep going up.

#OOTT

> @Energy_Tidbits
>
> Is this a good indicator that there is still more risk than reward to near term China economy?
>
> XI and politburo haven't yet been able to convince the Chinese people that it's time to spend the pent up savings!
>
> Thx @business.
>
> #OOTT
>
> 
> 

> **Gulf Intelligence** @gulf_intel · Sep 11
>
> 
> 
>
> **Mashreq 60-Second SoundBite:**
>
> "(Chinese) People are cautious and lacking confidence in the future!"
> ...

4 6 11.5K

SAF

**Dan Tsubouchi** @Energy_Tidbits · Sep 11

Libya big #Oil ports closed for 3 days - Es Sider, Ras Lanuf, Zueitina, Brega.

My 👇 map is ~18 mths old but should be close ie 690,000 b/d loading capacity is down

Unknown is if any damage.

Thx @AhmedElumami Ayman Al-Werfali

#OOTT

reuters.com/world/africa/p...


3 4 2,246

**Dan Tsubouchi** @Energy_Tidbits · Sep 11

Looks like weeks away for any #Chevron AUS #LNG labor deal?

CVX "*unions are asking for terms significantly above market*" "*no reasonable prospect of agreement*"

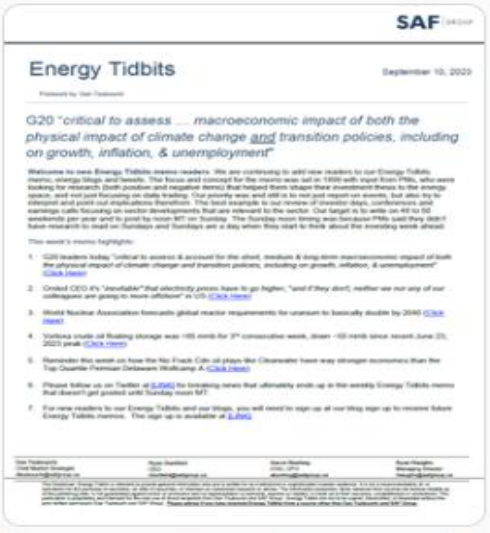
So applying to AUS industrial umpire for an intractable bargaining decision.

Thx @lewjackk @RoushniN
#OOTT #NatGas


4 7 2,271

**Dan Tsubouchi** @Energy_Tidbits · Sep 10

SAF Group Sept 10, 2023 Energy Tidbits memo is posted on SAF Group website. this 60-pg energy research memo expands upon & covers more items than tweeted this week. Available at news/insights section of SAF website #Oil #OOTT #LNG #NatGas #EnergyTransition

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