Energy Tidbits

Exxon's Shale Advancement on 4-mile Permian Wells with Heel-to-Toe Completion Success = Increased Value in Contiguous Land

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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**	**$95**
Retail gasoline price (dollars per gallon)	**$3.97**	**$3.62**	**$3.69**
U.S. crude oil production (million barrels per day)	**11.91**	**12.92**	**13.12**
Natural gas price at Henry Hub (dollars per million British thermal units)	**$6.42**	**$2.61**	**$3.23**
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%	41%
Coal	20%	16%	15%
Renewables	22%	22%	25%
Nuclear	19%	19%	20%
U.S. GDP (percentage change)	**2.1%**	**2.3%**	**1.6%**
U.S. CO_2 emissions (billion metric tons)	**4.94**	**4.75**	**4.71**

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

- ***Winter Fuels Outlook***. This month we are publishing our *Winter Fuels Outlook*, which discusses our expectations of household energy consumption and expenditures for the upcoming 2023–24 winter season. We expect U.S. households that use natural gas, electricity, or propane as their main heating fuel to spend less on heating this winter compared with last winter. Households that use heating oil are expected to spend slightly more.

- **OPEC+ production.** Beginning this month, our *Short-Term Energy Outlook* (STEO) OPEC crude oil production table will feature a new OPEC+ crude oil production forecast. The estimate includes combined crude oil production from the 10 members of OPEC subject to production targets (OPEC-10), as well as all non-OPEC crude oil production within the OPEC+ group. We expect OPEC+ members will decrease their crude oil production by 0.3 million barrels per day (b/d) in 2024 compared with this year.

- **Global oil markets.** Global oil inventories in our forecast fall by 0.2 million b/d in the second half of 2023 (2H23) because a voluntary production cut from Saudi Arabia and reduced production targets among OPEC+ countries keep global oil production below global oil consumption. As a result, we expect upward pressure on crude oil prices, with the Brent spot price increasing to average $95 per barrel (b) in 2024.

- **U.S. jet fuel consumption**. We forecast that U.S. jet fuel consumption will increase by 6% in 2024 from 2023. The growth mainly reflects strong consumer demand for air travel, which has returned

to pre-pandemic levels. Despite the increased demand for travel compared to pre-pandemic levels, we expect slightly less jet fuel consumption for the same volume of passengers due to an industry shift to larger aircrafts.

- **Natural gas inventories.** At the end of October, we expect U.S. natural gas inventories to total 3,854 billion cubic feet, 6% more than the five-year (2018–2022) average for the end of October.
- **Electricity generation.** We forecast that electricity generation from natural gas will account for about 42% of U.S. generation in 2023, an increase from 39% in 2022. This increase is the result of relatively low prices for natural gas; the retirement of 10 gigawatts (GW) of coal-fired generating capacity this year; and 5 GW of new, highly efficient natural gas-turbine capacity entering service. We expect natural gas-fired electricity generation to fall slightly to a 41% share in 2024. Despite a forecast increase in overall electricity generation in 2024, we expect generation from both natural gas and coal will fall next year in part because of increasing generating capacity from renewable sources. Our forecast assumes 40 GW of solar and wind generating capacity will enter service next year, an increase of 16% from this year, leading to the share of electricity provided by renewables rising from 22% in 2023 to 25% in 2024.
- **Noncombustible renewable energy methodology.** Beginning this month, STEO will calculate consumption of noncombustible renewable energy for electricity generation using a constant conversion factor of 3,412 British thermal units per kilowatthour (Btu/kWh), the heat content of electricity. You can find more information on this change, in the announcement of changes to the *Monthly Energy Review*.

Notable forecast changes
Current forecast: October 11, 2023; previous forecast: September 12, 2023

	2023	2024
Brent crude oil spot price (dollars per barrel)	**$84**	**$95**
Previous forecast	$84	$88
Percentage change	-0.4%	7.6%
U.S. crude oil inventories (million barrels)	**420**	**428**
Previous forecast	421	440
Percentage change	-0.3%	-2.7%

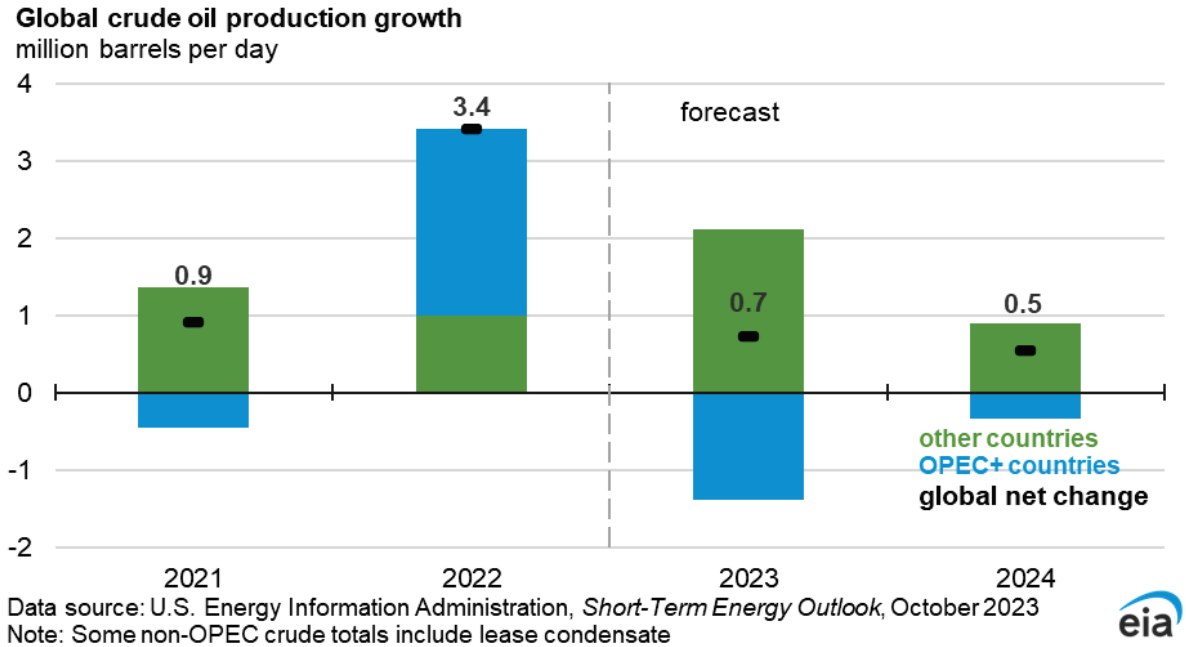
Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*

Global Oil Markets

Global oil prices and inventory levels

The Brent crude oil spot price increased over much of the past month before falling below $90 per barrel (b) during the first week of October. We forecast crude oil prices will rise in the coming months, reflecting our expectations of tightening balances in global oil markets. The Brent crude oil price averaged $94/b in September, $8/b higher than in August and $19/b higher than in June. Oil prices increased in September after Saudi Arabia extended its voluntary crude oil production cuts through the end of the year and U.S. commercial crude oil inventories fell to the lowest since early 2022 at the end of September.

Global crude oil supply growth has been limited in 2023 because of voluntary production cuts from Saudi Arabia and reduced production targets from other OPEC+ countries. We expect countries within the OPEC+ agreement will have lowered crude oil production by 1.4 million barrels per day (b/d) in 2023, partly offsetting production growth of 2.7 million b/d by non-OPEC+ producers. We forecast that OPEC+ crude oil production will fall by an additional 0.3 million b/d on average in 2024. This forecast assumes some extension of voluntary production cuts from Saudi Arabia into 2024 and overall production from OPEC+ countries remaining below targets.



Our current assessment is that global oil inventories are falling by 0.2 million b/d in the second half of 2023 (2H23). Inventory draws in our forecast continue at that pace in the first quarter of 2024 (1Q24) because OPEC+ cuts keep global oil production lower than global oil demand. Inventories are largely balanced for the remaining three quarters of 2024 as global oil consumption growth generally slows while production growth accelerates. As a result, we expect the Brent spot price will average $91/b in 4Q23 and increase to average $96/b in 2Q24 before some modest downward price pressures emerge in

2H24. Our forecast for the annual average Brent spot price in 2024 is $95/b, $7/b higher than in last month's STEO.

Although the recent attacks on Israel have not affected physical oil markets, they raise the potential for oil supply disruptions and higher oil prices. The situation in Israel began developing after we ran our models, so it remains a source of uncertainty in our forecasts. In addition to these new developments, growth in global oil production remains a key uncertainty in our forecast for next year. Current OPEC+ production targets are set to expire at the end of 2024, and we assume that continuing voluntary cuts and other factors will keep actual OPEC+ crude oil production well below targets as the group tries to limit increases in global oil inventories. However, should OPEC+ produce closer to target levels than we currently assume, it could reduce prices in 2024. Also, the rate at which U.S. tight oil producers add drilling rigs and improve well-level efficiency is highly uncertain and could cause global oil production to vary significantly from our forecast. Finally, the global economic outlook remains uncertain, and unexpected changes in GDP growth in the coming months could affect oil demand.

Global oil supply

Beginning with this month's STEO, we are introducing a new OPEC+ crude oil production estimate as part of our data tables. This value includes total crude oil production from OPEC-10 members and all non-OPEC crude oil production within the OPEC+ group. Russia, the largest non-OPEC producer within the group, and Saudi Arabia have steadily reduced production over the year, contributing to falling global oil inventories and limiting global crude oil production growth in 2023.

Other OPEC+ members have struggled to sustain production at agreed-upon targets, further limiting global crude oil supply in 2023. We estimate that OPEC+ crude oil production will average 38.2 million b/d in 2023, about 1.4 million b/d less than in 2022, before falling further to 37.8 million b/d in 2024.

We forecast global liquid fuels production (crude oil and other liquids) will increase by 1.3 million b/d in 2023 and by 0.9 million b/d in 2024. We forecast that non-OPEC production will increase by 2.2 million b/d in 2023, more than offsetting the decline in OPEC output. Production growth outside OPEC is driven by new project starts in North America and South America. Forecast non-OPEC production grows by 1.0 million b/d in 2024 as new projects in Guyana and Brazil continue to add supply and the United States and Canada increase production.

Table 1: OPEC+ crude oil production, 2023 (million barrels per day)

	2023				
	Q1	Q2	Jul	Aug	Sep
OPEC-10 Crude Oil Production	**24.02**	**23.74**	**22.70**	**22.23**	**22.74**
Saudi Arabia	10.02	10.18	9.17	8.70	9.10
Non-OPEC Crude Oil Production	**15.27**	**14.86**	**14.71**	**14.71**	**14.92**
Azerbaijan	0.52	0.50	0.50	0.50	0.53
Bahrain	0.17	0.15	0.13	0.13	0.13
Brunei Darussalam	0.08	0.06	0.08	0.07	0.07
Kazakhstan	1.61	1.58	1.48	1.46	1.60
Malaysia	0.39	0.36	0.38	0.38	0.38
Mexico	1.67	1.67	1.64	1.66	1.68
Oman	0.84	0.82	0.80	0.80	0.80
Russia	9.78	9.52	9.48	9.48	9.50
South Sudan	0.13	0.13	0.16	0.16	0.16
Sudan	0.07	0.07	0.07	0.07	0.07
Total OPEC+ Crude Oil Production	**39.29**	**38.60**	**37.41**	**36.93**	**37.66**

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

Note: OPEC-10 represents OPEC members excluding Iran, Libya, and Venezuela, who are exempt from OPEC+ agreement

Petroleum Products

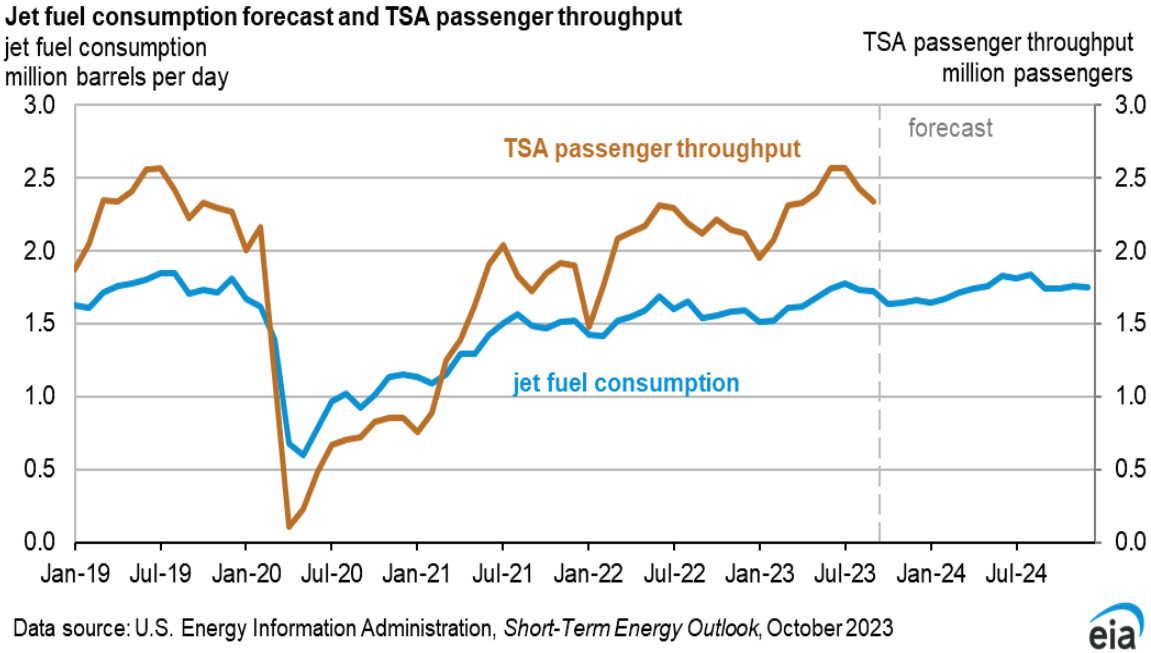
U.S. jet fuel consumption

In our October STEO, we forecast that jet fuel consumption will increase by 6% in 2024 to more than 1.7 million b/d compared with 2023. Consumption of jet fuel is growing faster than other transportation fuels. Over the same period, we expect distillate fuel consumption will remain fairly flat, and gasoline consumption will decline by 2%.

If our forecast is realized in 2024, U.S. jet fuel consumed in 2024 would equal pre-pandemic consumption in 2019. Jet fuel is the only transportation fuel that we expect will equal 2019 consumption in our forecast.

Jet fuel consumption has been driven by a strong return of passengers following the most acute effects of the pandemic. According to TSA passenger volumes, total U.S. passengers in 2023 through September is essentially equal to the 2019 volume over the same period. However, changes to the airline fleet appear to have reduced jet fuel consumption for the same number of passengers.

According to the September 26 *Industry Review and Outlook* from Airlines for America, U.S. airlines have shifted to larger (or denser) aircraft, and the average number of seats per domestic departure has increased. This shift likely reduced jet fuel consumption as the number of passengers returned to pre-pandemic levels. Our economic growth forecast suggests increasing travel demand will contribute to rising jet fuel consumption in 2024.

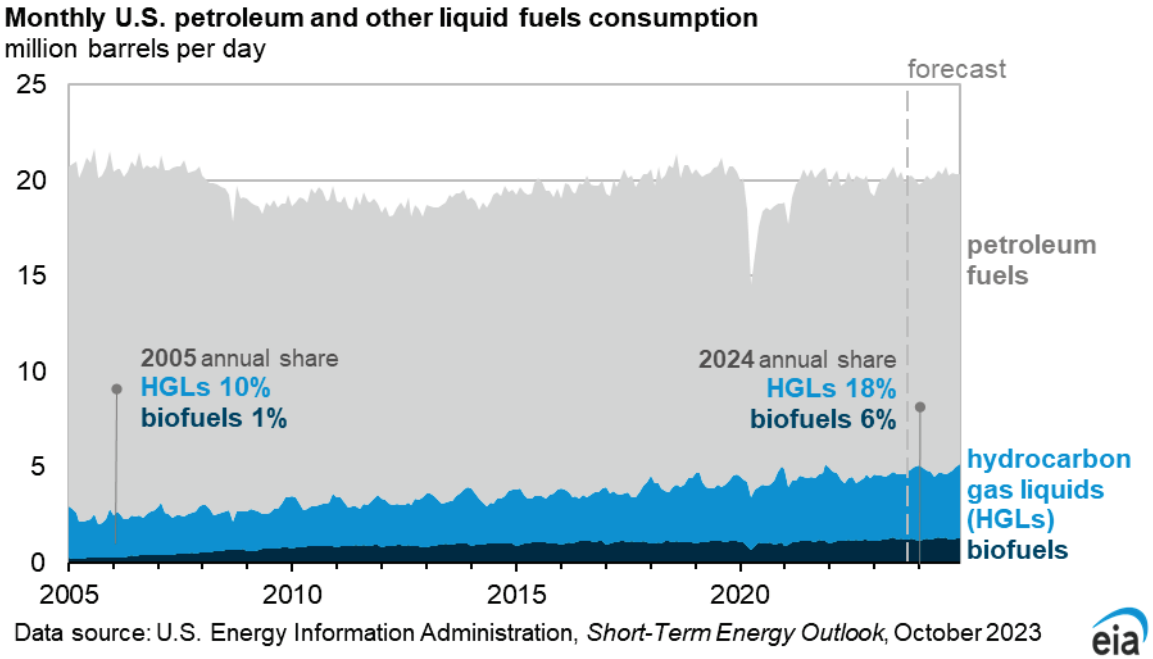


U.S. petroleum and other liquid fuels consumption

We forecast consumption of petroleum and other liquid fuels will rise in the United States to 20.2 million b/d in 2024, 2% less than 2019 and 3% less than the record high in 2005. Despite an increase in total U.S. liquid fuels consumption in our forecast, we forecast the share of refinery-produced petroleum fuels will decline in 2024. Biofuels partially substitute for petroleum-based fuels in transportation in our forecast. We expect the consumption of renewable diesel to increase by more than 30% (60,000 b/d) in 2024, most of which will directly replace petroleum-based diesel, particularly in California. Hydrocarbon gas liquids (HGLs) consumption in our forecast grows because of its use as feedstock for petrochemical production. We forecast the share of biofuels in U.S. liquid fuels consumption will average 6% in 2024, up from 1% in 2005, and the share from HGLs will average 18%, up from 10% in 2005.

Among biofuels, fuel ethanol blended into motor gasoline makes up about 10% of every gallon sold, and some states increasingly sell higher blends (up to 85%).

In addition, financial incentives aimed at increasing the use of renewable diesel in California and other West Coast states have led several refiners to convert their facilities to renewable diesel production. As a result, petroleum-based diesel consumption on the West Coast has decreased. Although HGLs are not substitutes for transportation fuels like gasoline and diesel, low prices and rising production in the United States have contributed to petrochemical expansions, particularly facilities that use ethane as a major feedstock.



Natural Gas

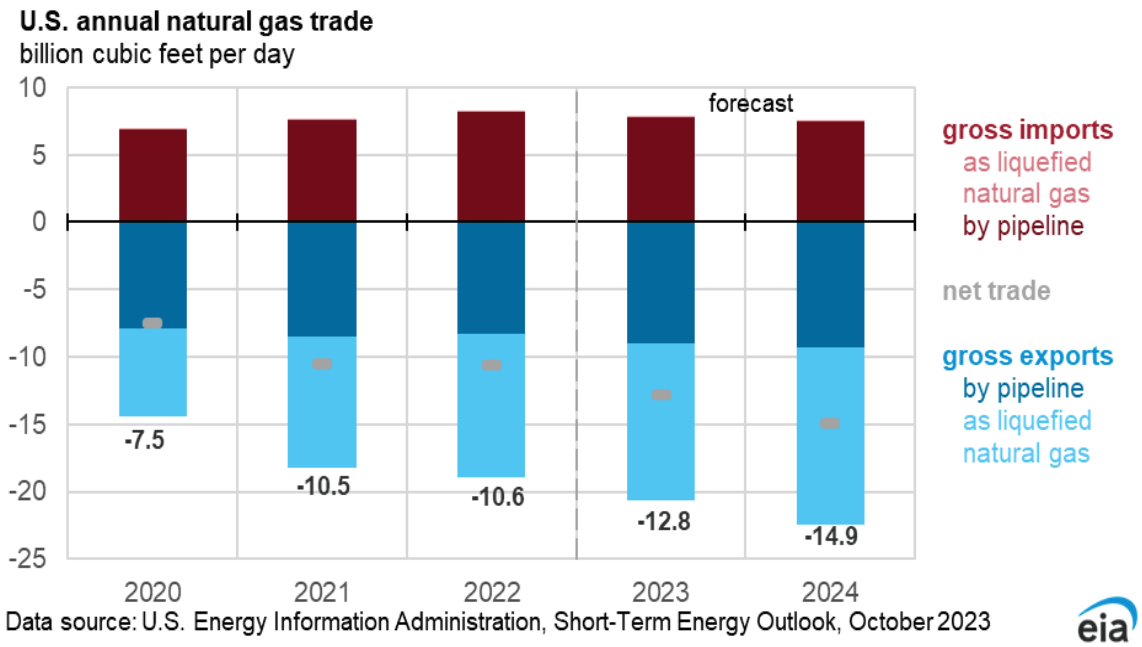
Natural gas trade

We forecast U.S. natural gas exports will reach an annual record in 2023 and will continue to grow in 2024. U.S. net exports of natural gas in our forecast increase 20% this year compared with last year to average 12.8 billion cubic feet per day (Bcf/d). Increases in liquefied natural gas (LNG) exports and pipeline exports to Mexico drive the overall increase in net natural gas exports, while natural gas imports decline from 2022.

The United States exported more LNG than any other country in the first half of 2023, averaging 11.6 Bcf/d, 10% more than the average for all of 2022. After a decline in 3Q23, we forecast LNG exports to increase during 4Q23 and continue increasing into 2024, averaging 12.7 Bcf/d for the first nine months of 2024. In 4Q24, we expect LNG exports to approach 15.0 Bcf/d as a result of three new export projects that are set to begin operations and expand U.S. export capacity.

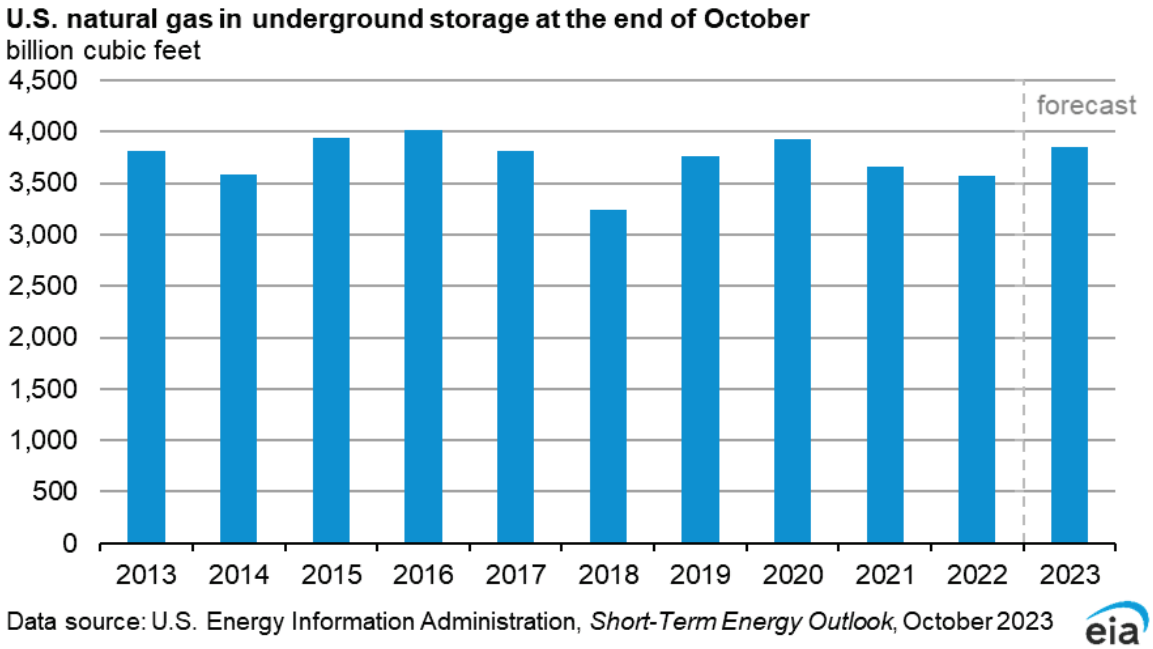
We expect U.S. natural gas pipeline exports, which go to both Canada and Mexico, to increase 9% this year (0.7 Bcf/d) from last year, averaging 9.0 Bcf/d for all of 2023. Pipeline exports to Mexico reached a new record in June and have remained high throughout the summer. We expect natural gas pipeline exports to Mexico to continue increasing as pipeline projects in Mexico are completed and demand in Mexico's electric power sector rises.

U.S. natural gas imports in our forecast decline by 6%, or 0.5 Bcf/d, in 2023 compared with 2022. The decline is driven by warmer winter weather in the northern United States, resulting in less natural gas imported from Canada to meet space-heating demand.



Natural gas storage

We forecast U.S. natural gas in underground storage to total 3,854 billion cubic feet (Bcf) at the end of October—the end of summer injection season and the start of winter heating season—6% more than the five-year average (2018—2022). We forecast natural gas inventories will increase by about 360 Bcf in October due to a combination of U.S. dry natural gas production growing to nearly 105 Bcf/d and overall U.S. demand for natural gas declining as seasonal temperature patterns emerge in October. Natural gas inventories began the injection season with a 19% surplus to the five-year average. However, for 12 of the past 13 weeks, net injections into U.S. underground storage have been below the five-year average, dropping storage inventories closer to the five-year average. Our forecast shows the most U.S. natural gas inventories entering the winter heating season since 2020 and the fourth-most in the past 10 years.



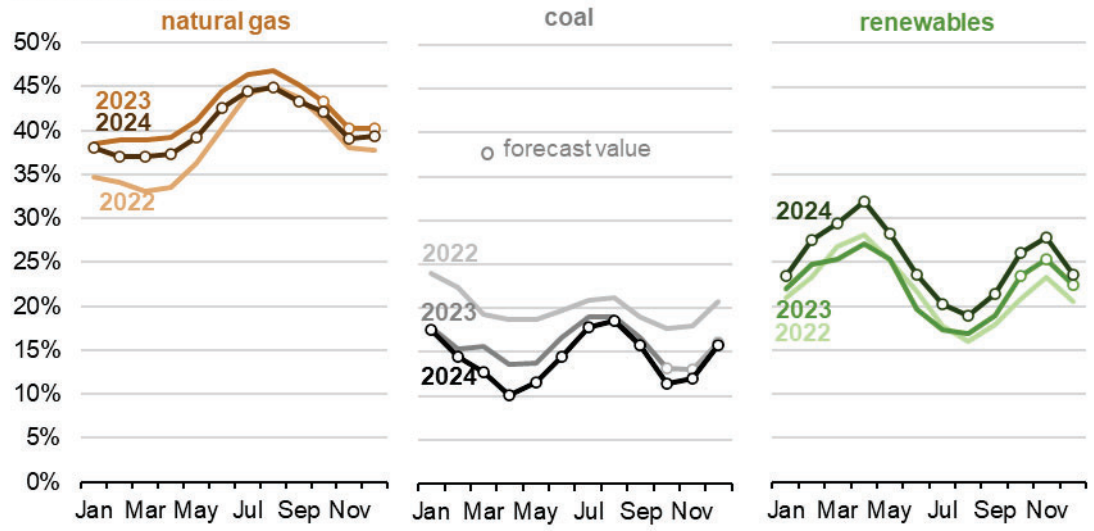
Electricity, Coal, and Renewables

Electricity generation

We forecast that natural gas will supply 41% of total U.S. generation in 2024, down from an average of 42% in 2023. This decline is offset by a forecast increase in the share of renewable generation from 22% this year to 25% in 2024.

In the forecast, natural gas-fired generation is more likely to be affected by the increasing availability of renewable generation than by fuel costs because growing renewable capacity, which generally has lower operating costs than thermal generation, will lead to less need to generate from natural gas and coal. Much of the increase in renewable generation is the result of new solar generating capacity added by the electric power sector, which we expect will rise by 25 gigawatts (GW) in 2023. An expected 8 GW increase in wind-generating capacity also helps increase generation from renewables. The share of combined solar and wind generation tends to peak in the spring months when overall electricity demand is low. The new renewable-generating capacity should reduce the share of natural gas- and coal-fired capacity in spring 2024 compared with last spring.

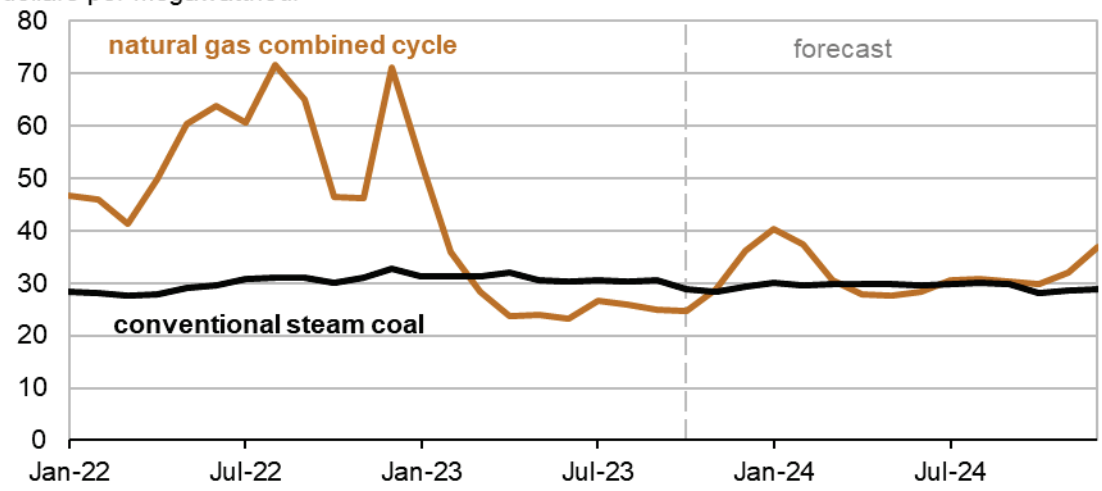
U.S. electric power sector generation share for selected energy sources
percentage of total



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

Although we expect the increase in renewables capacity to be the main driver of relative electricity generation shares next year, low natural gas prices, compared with coal, are also changing the relative use of the two fuels. Costs for generating power from natural gas have been much more volatile than the costs for coal. Between March and July 2023, we estimate that the cost of producing power from combined-cycle natural gas power plants averaged $25 per megawatthour (MWh), lower than the estimated $31/MWh cost for generation from coal-fired power plants. During the same months in 2022, the cost of operating combined-cycle plants ($55/MWh) was 90% higher than for coal-fired power plants ($29/MWh).

Simulated U.S. average monthly baseload generator dispatch costs
dollars per megawatthour

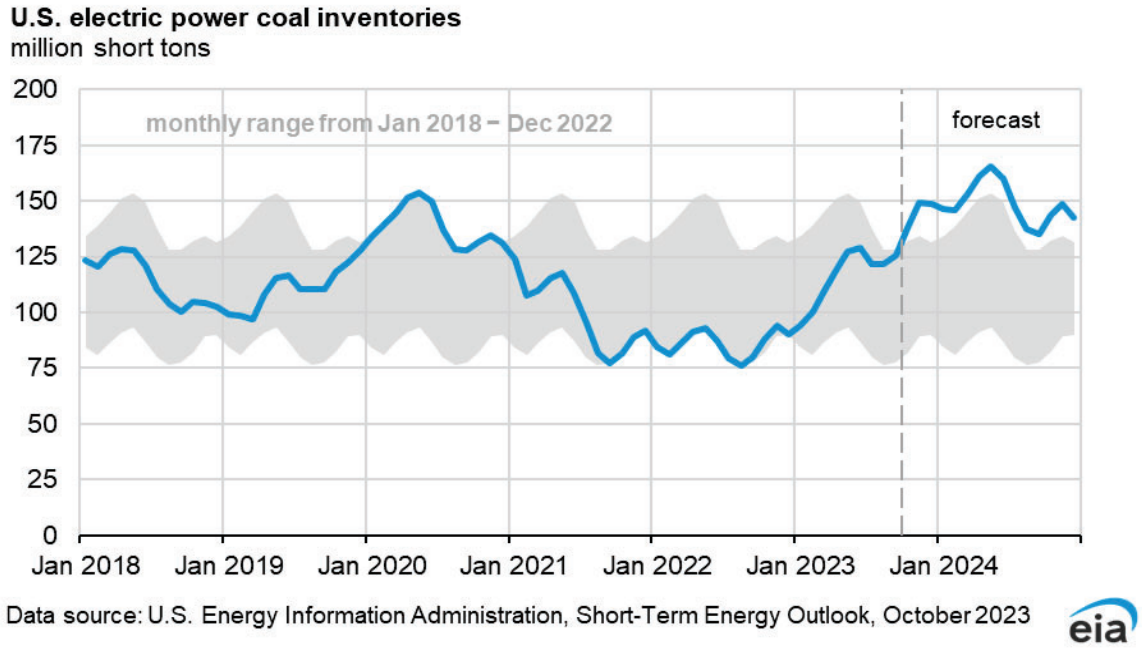


Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, October 2023
Note: Simulated costs represent monthly average variable costs (fuel, operating, and maintenance costs) for the generating units that are selected for dispatch in the STEO electricity supply model.

We expect natural gas prices to increase in 2024, which should bring the costs of generating electricity from coal and natural gas closer together. For all of 2024, our estimated cost of natural gas-fired electricity averages $32/MWh compared with an average $29/MWh for coal. We expect these similar costs will keep the share of U.S. generation from coal near 15% on average in 2024.

Coal inventories

We forecast that coal inventories held by the electric power sector will reach almost 150 million short tons (MMst) in December 2023, a 66% jump over December 2022. The rising coal inventories this year are a result of a delayed response in production to the drop in coal-fired generation as coal producers fulfill supply contracts already in place. Although forecast natural gas prices rise slightly over the next few months, we expect coal inventories will increase until the spring of 2024, peaking near 170 MMst in May as the electric power industry gears up for summer power consumption. We forecast coal stocks will decrease from May 2024 levels back below 150 MMst in late 2024 as coal consumption goes through its normal seasonal drop in the fall.



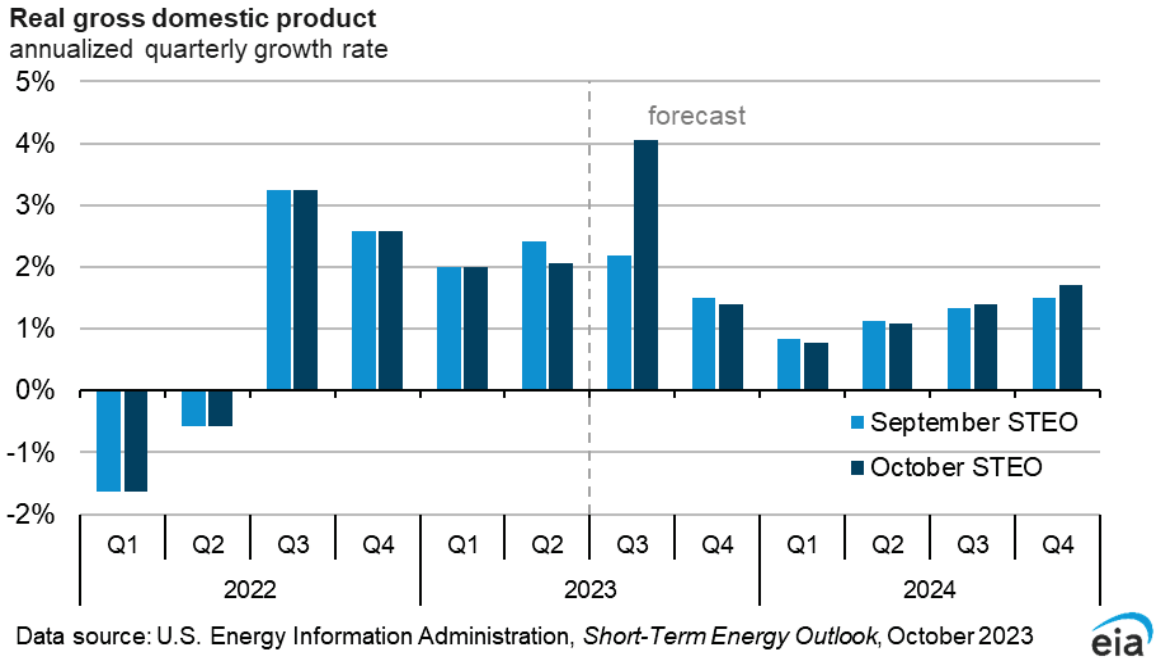
Economy, Weather, and CO_2

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 obtain our final macroeconomic assumptions.

Our forecast assumes real GDP growth will average 2.3% in 2023 and 1.6% in 2024. Overall, the current outlook for the U.S. economy is similar to last month, except 3Q23. Our forecast now estimates that GDP grew at an annualized rate of 4.0% in 3Q23, up from 2.2% growth from last month's outlook.

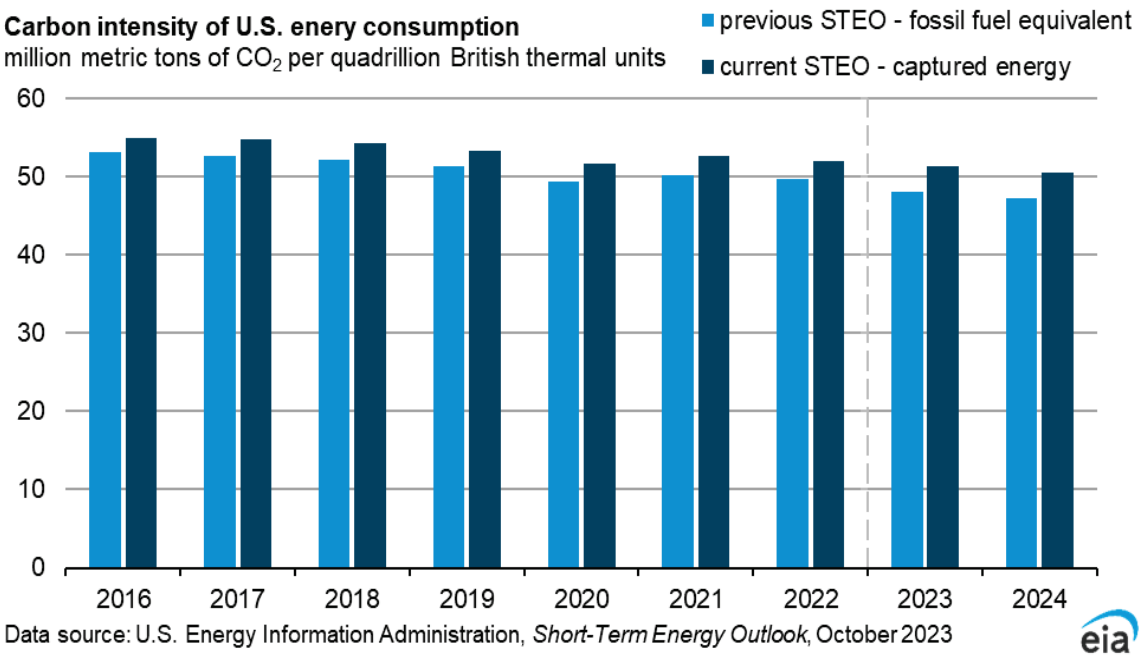
S&P Global revised its outlook for 3Q23 after data on July retail sales, construction outlays, and business inventory accumulation showed unexpected strength. The data releases resulted in S&P Global revising annualized 3Q23 consumer spending growth from 1.8% to 3.9% and fixed private investment growth from 1.8% to 3.0%. The primary contributors to the increase in fixed private investment were increased spending on single-family home construction and on manufacturing construction projects.



Emissions

Starting with the release of the September 2023 *Monthly Energy Review,* we calculate consumption of noncombustible renewable energy for electricity generation using the *captured energy* approach, which applies a constant conversion factor of 3,412 British thermal units per kilowatthour (Btu/kWh), the heat content of electricity. Those changes are incorporated in our forecasts beginning with the October STEO. Previously, we used the *fossil fuel equivalency* approach.

This approach is strictly an accounting change. The carbon intensity of energy consumption is the ratio of total emissions over total primary energy consumption. The captured energy approach assumes that the amount of energy consumed from renewable sources is less than assumed using the fossil fuel equivalent approach. Carbon emissions in both approaches remain the same. Mathematically, a smaller estimate of energy used and the same amount of emissions leads to an emissions intensity that is between 6% and 7% higher in both 2023 and 2024, due to the nature of the calculation, not because of changes in the activity the variables represent.



Weather

We forecast that the United States will average about 3,220 heating degree days (HDDs) this winter (November through March), which would be the same as last winter and slightly warmer than the average winter over the past decade, with 4% fewer HDDs than the 10-winter average. Other factors equal, consumers tend to use less energy for space heating when there are fewer HDD. We expect 2023 to end with about 3,900 HDDs, 8% fewer than in 2022. In 1Q23, weather was warmer with 10% fewer HDDs than the same period in 2022. In addition, we expect a warmer 4Q23 compared to 4Q22 with 7% fewer HDDs.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - October 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**	**33.72**	**34.40**	*34.89*	*34.78*	*34.38*	*34.58*	*35.26*	**32.35**	*34.13*	*34.75*
U.S. (50 States)	**19.57**	**20.24**	**20.65**	**20.72**	**21.05**	**21.69**	**22.12**	*22.14*	*22.00*	*22.05*	*22.16*	*22.40*	**20.30**	*21.76*	*22.16*
Canada	**5.66**	**5.51**	**5.72**	**5.91**	**5.79**	**5.41**	**5.73**	*5.97*	*5.97*	*5.64*	*5.83*	*6.05*	**5.70**	*5.73*	*5.87*
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**	**4.46**	**4.44**	*4.67*	*4.71*	*4.61*	*4.52*	*4.78*	**4.44**	*4.53*	*4.65*
Non-OECD	**67.21**	**66.86**	**68.26**	**68.06**	**67.52**	**67.58**	**66.77**	*66.67*	*66.75*	*67.56*	*68.00*	*67.47*	**67.60**	*67.13*	*67.44*
OPEC	**33.75**	**33.76**	**34.71**	**34.43**	**33.95**	**33.69**	**32.73**	*32.86*	*33.14*	*33.18*	*33.33*	*33.10*	**34.17**	*33.30*	*33.19*
Crude Oil Portion	**28.19**	**28.33**	**29.23**	**28.92**	**28.46**	**28.38**	**27.38**	*27.48*	*27.65*	*27.82*	*27.95*	*27.68*	**28.67**	*27.92*	*27.78*
Other Liquids (b)	**5.56**	**5.43**	**5.48**	**5.52**	**5.49**	**5.31**	**5.35**	*5.39*	*5.48*	*5.35*	*5.38*	*5.42*	**5.50**	*5.38*	*5.41*
Eurasia	**14.39**	**13.39**	**13.56**	**13.90**	**14.00**	**13.56**	**13.39**	*13.53*	*13.62*	*13.68*	*13.67*	*13.74*	**13.81**	*13.62*	*13.68*
China	**5.18**	**5.18**	**5.05**	**5.09**	**5.32**	**5.32**	**5.22**	*5.32*	*5.27*	*5.29*	*5.29*	*5.33*	**5.12**	*5.29*	*5.29*
Other Non-OECD	**13.90**	**14.53**	**14.94**	**14.65**	**14.26**	**15.01**	**15.44**	*14.96*	*14.72*	*15.40*	*15.71*	*15.29*	**14.51**	*14.92*	*15.28*
Total World Production	**98.96**	**98.86**	**100.85**	**101.09**	**101.00**	**101.30**	**101.17**	*101.56*	*101.53*	*101.94*	*102.58*	*102.73*	**99.95**	*101.26*	*102.19*
Non-OPEC Production	**65.22**	**65.10**	**66.14**	**66.65**	**67.05**	**67.61**	**68.44**	*68.70*	*68.39*	*68.76*	*69.24*	*69.62*	**65.78**	*67.96*	*69.01*
Consumption (million barrels per day) (c)															
OECD	**45.63**	**45.11**	**46.22**	**45.63**	**45.19**	**45.39**	**46.04**	*46.26*	*45.53*	*45.13*	*45.94*	*46.04*	**45.65**	*45.72*	*45.66*
U.S. (50 States)	**20.09**	**20.00**	**20.11**	**19.85**	**19.66**	**20.38**	**20.12**	*20.13*	*19.97*	*20.23*	*20.40*	*20.30*	**20.01**	*20.07*	*20.22*
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**	**2.34**	*2.32*	*2.27*	*2.22*	*2.32*	*2.29*	**2.28**	*2.29*	*2.28*
Europe	**13.19**	**13.43**	**14.04**	**13.35**	**13.06**	**13.36**	**13.96**	*13.73*	*13.18*	*13.33*	*13.74*	*13.51*	**13.50**	*13.53*	*13.44*
Japan	**3.70**	**3.03**	**3.19**	**3.56**	**3.72**	**3.02**	**3.12**	*3.45*	*3.57*	*2.96*	*3.06*	*3.38*	**3.37**	*3.32*	*3.24*
Other OECD	**6.30**	**6.33**	**6.37**	**6.45**	**6.39**	**6.27**	**6.38**	*6.52*	*6.43*	*6.28*	*6.30*	*6.44*	**6.36**	*6.39*	*6.36*
Non-OECD	**52.83**	**53.49**	**53.86**	**53.85**	**54.65**	**55.38**	**55.40**	*55.35*	*56.23*	*56.74*	*56.68*	*56.65*	**53.51**	*55.20*	*56.57*
Eurasia	**4.28**	**4.43**	**4.73**	**4.65**	**4.34**	**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**	**14.30**	**14.38**	**13.79**	*14.10*	*14.87*	*14.85*	*14.24*	*14.56*	**13.69**	*14.14*	*14.63*
Other Non-OECD	**18.95**	**19.45**	**19.86**	**19.32**	**19.38**	**19.67**	**20.27**	*19.80*	*19.85*	*20.02*	*20.57*	*20.09*	**19.39**	*19.78*	*20.13*
Total World Consumption	**98.46**	**98.60**	**100.08**	**99.48**	**99.84**	**100.77**	**101.44**	*101.62*	*101.75*	*101.87*	*102.62*	*102.69*	**99.16**	*100.92*	*102.24*
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**	**-0.06**	*0.34*	*-0.03*	*-0.33*	*0.02*	*0.38*	**0.54**	*0.02*	*0.01*
Other OECD	**-0.09**	**-0.29**	**-0.48**	**-0.26**	**0.32**	**-0.48**	**0.10**	*-0.09*	*0.08*	*0.08*	*0.01*	*-0.13*	**-0.28**	*-0.04*	*0.01*
Other Stock Draws and Balance	**-1.21**	**-0.49**	**-0.75**	**-1.74**	**-1.39**	**0.06**	**0.22**	*-0.19*	*0.17*	*0.18*	*0.02*	*-0.29*	**-1.05**	*-0.32*	*0.02*
Total Stock Draw	**-0.51**	**-0.26**	**-0.77**	**-1.60**	**-1.15**	**-0.53**	**0.27**	*0.06*	*0.22*	*-0.06*	*0.05*	*-0.04*	**-0.79**	*-0.33*	*0.04*
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**	**1,266**	*1,234*	*1,236*	*1,266*	*1,264*	*1,229*	**1,223**	*1,234*	*1,229*
OECD Commercial Inventory	**2,604**	**2,657**	**2,736**	**2,767**	**2,746**	**2,824**	**2,816**	*2,792*	*2,787*	*2,810*	*2,807*	*2,784*	**2,767**	*2,792*	*2,784*

(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 October 5, 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 - October 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**	**12.75**	**13.13**	*13.16*	*13.07*	*13.02*	*13.07*	*13.31*	**11.91**	*12.92*	*13.12*
Alaska	**0.45**	**0.44**	**0.42**	**0.44**	**0.44**	**0.43**	**0.42**	*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**	**1.77**	**1.95**	*1.90*	*1.90*	*1.88*	*1.83*	*1.88*	**1.73**	*1.87*	*1.87*
Lower 48 States (excl GOM)	**9.42**	**9.63**	**9.85**	**10.06**	**10.31**	**10.55**	**10.77**	*10.82*	*10.74*	*10.73*	*10.84*	*11.02*	**9.74**	*10.62*	*10.84*
Transfers to Crude Oil Supply	**0.41**	**0.37**	**0.42**	**0.48**	**0.39**	**0.51**	**0.48**	*0.38*	*0.35*	*0.36*	*0.36*	*0.34*	**0.42**	*0.44*	*0.35*
Crude Oil Net Imports (c)	**3.06**	**2.81**	**2.75**	**2.20**	**2.27**	**2.51**	**2.51**	*2.40*	*2.36*	*2.78*	*2.74*	*2.04*	**2.71**	*2.43*	*2.48*
SPR Net Withdrawals	**0.31**	**0.80**	**0.84**	**0.48**	**0.01**	**0.26**	**-0.05**	*-0.01*	*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**	**0.44**	*-0.06*	*-0.32*	*0.11*	*0.19*	*-0.08*	**-0.02**	*0.03*	*-0.02*
Crude Oil Adjustment (d)	**0.20**	**0.45**	**0.38**	**0.41**	**0.34**	**0.00**	**-0.04**	*0.31*	*0.37*	*0.37*	*0.36*	*0.39*	**0.36**	*0.15*	*0.37*
Total Crude Oil Input to Refineries	**15.58**	**16.15**	**16.31**	**15.86**	**15.25**	**16.15**	**16.48**	*15.80*	*15.49*	*16.28*	*16.37*	*15.66*	**15.98**	*15.92*	*15.95*
Other Supply															
Refinery Processing Gain	**0.97**	**1.08**	**1.06**	**1.01**	**0.97**	**1.01**	**1.04**	*1.01*	*0.98*	*1.01*	*1.01*	*1.00*	**1.03**	*1.01*	*1.00*
Natural Gas Plant Liquids Production	**5.66**	**5.96**	**6.13**	**5.97**	**6.01**	**6.42**	**6.42**	*6.46*	*6.45*	*6.49*	*6.54*	*6.57*	**5.93**	*6.33*	*6.52*
Renewables and Oxygenate Production (e)	**1.20**	**1.20**	**1.18**	**1.23**	**1.24**	**1.29**	**1.31**	*1.29*	*1.29*	*1.31*	*1.32*	*1.30*	**1.20**	*1.29*	*1.31*
Fuel Ethanol Production	**1.02**	**1.01**	**0.97**	**1.01**	**1.00**	**1.00**	**1.03**	*1.00*	*0.98*	*0.98*	*0.99*	*0.97*	**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**	**-0.48**	*-0.38*	*-0.35*	*-0.36*	*-0.36*	*-0.34*	**-0.42**	*-0.44*	*-0.35*
Product Net Imports (c)	**-3.54**	**-4.02**	**-4.12**	**-3.90**	**-3.91**	**-3.71**	**-4.42**	*-4.69*	*-4.39*	*-4.29*	*-4.53*	*-4.57*	**-3.90**	*-4.19*	*-4.45*
Hydrocarbon Gas Liquids	**-2.07**	**-2.36**	**-2.25**	**-2.26**	**-2.47**	**-2.39**	**-2.49**	*-2.59*	*-2.66*	*-2.62*	*-2.61*	*-2.61*	**-2.24**	*-2.48*	*-2.63*
Unfinished Oils	**0.17**	**0.29**	**0.29**	**0.30**	**0.28**	**0.27**	**0.26**	*0.28*	*0.24*	*0.30*	*0.32*	*0.21*	**0.26**	*0.27*	*0.27*
Other HC/Oxygenates	**-0.07**	**-0.10**	**-0.06**	**-0.02**	**-0.05**	**-0.07**	**-0.07**	*-0.06*	*-0.07*	*-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**	*0.28*	*0.48*	*0.65*	*0.51*	*0.33*	**0.46**	*0.49*	*0.49*
Finished Motor Gasoline	**-0.69**	**-0.75**	**-0.79**	**-0.84**	**-0.75**	**-0.58**	**-0.74**	*-0.72*	*-0.86*	*-0.75*	*-0.75*	*-0.76*	**-0.77**	*-0.70*	*-0.78*
Jet Fuel	**-0.03**	**-0.06**	**-0.10**	**-0.03**	**-0.05**	**0.01**	**-0.04**	*-0.03*	*0.01*	*0.03*	*-0.01*	*0.00*	**-0.06**	*-0.03*	*0.01*
Distillate Fuel Oil	**-0.74**	**-1.08**	**-1.24**	**-1.00**	**-0.76**	**-0.97**	**-1.11**	*-1.03*	*-0.84*	*-1.10*	*-1.17*	*-0.98*	**-1.02**	*-0.97*	*-1.02*
Residual Fuel Oil	**0.09**	**0.08**	**0.10**	**0.09**	**0.01**	**-0.04**	**-0.06**	*-0.01*	*0.02*	*0.02*	*-0.03*	*0.08*	**0.09**	*-0.02*	*0.02*
Other Oils (g)	**-0.58**	**-0.64**	**-0.53**	**-0.54**	**-0.58**	**-0.61**	**-0.73**	*-0.81*	*-0.71*	*-0.77*	*-0.74*	*-0.79*	**-0.57**	*-0.68*	*-0.75*
Product Inventory Net Withdrawals	**0.42**	**-0.25**	**-0.26**	**-0.06**	**0.30**	**-0.49**	**-0.46**	*0.41*	*0.29*	*-0.44*	*-0.17*	*0.46*	**-0.04**	*-0.06*	*0.03*
Total Supply	**20.09**	**20.00**	**20.11**	**19.85**	**19.67**	**20.38**	**20.12**	*20.13*	*19.97*	*20.23*	*20.40*	*20.30*	**20.01**	*20.08*	*20.22*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.77**	**3.18**	**3.17**	**3.32**	**3.40**	**3.36**	**3.37**	*3.65*	*3.76*	*3.37*	*3.39*	*3.76*	**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*	*0.25*	*0.27*	*0.26*	*0.28*	**0.17**	*0.25*	*0.27*
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**	**8.87**	*8.70*	*8.41*	*8.85*	*8.92*	*8.57*	**8.81**	*8.84*	*8.69*
Fuel Ethanol blended into Motor Gasoline	**0.88**	**0.93**	**0.92**	**0.93**	**0.90**	**0.94**	**0.94**	*0.90*	*0.87*	*0.92*	*0.93*	*0.89*	**0.91**	*0.92*	*0.90*
Jet Fuel	**1.45**	**1.61**	**1.60**	**1.58**	**1.55**	**1.67**	**1.74**	*1.64*	*1.67*	*1.78*	*1.80*	*1.75*	**1.56**	*1.65*	*1.75*
Distillate Fuel Oil	**4.22**	**3.97**	**3.91**	**4.00**	**4.01**	**3.93**	**3.80**	*3.97*	*4.05*	*3.94*	*3.88*	*4.01*	**4.03**	*3.92*	*3.97*
Residual Fuel Oil	**0.33**	**0.30**	**0.38**	**0.30**	**0.29**	**0.22**	**0.24**	*0.27*	*0.25*	*0.24*	*0.25*	*0.29*	**0.33**	*0.26*	*0.26*
Other Oils (g)	**1.61**	**1.78**	**1.94**	**1.70**	**1.53**	**1.79**	**1.86**	*1.66*	*1.55*	*1.77*	*1.90*	*1.64*	**1.76**	*1.71*	*1.72*
Total Consumption	**20.09**	**20.00**	**20.11**	**19.85**	**19.66**	**20.38**	**20.12**	*20.13*	*19.97*	*20.23*	*20.40*	*20.30*	**20.01**	*20.07*	*20.22*
Total Petroleum and Other Liquids Net Imports	**-0.48**	**-1.21**	**-1.37**	**-1.69**	**-1.64**	**-1.20**	**-1.91**	*-2.28*	*-2.02*	*-1.51*	*-1.79*	*-2.53*	**-1.19**	*-1.76*	*-1.96*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**414.2**	**417.8**	**429.0**	**430.1**	**465.4**	**454.7**	**414.2**	*419.9*	*448.6*	*438.3*	*420.4*	*427.7*	**430.1**	*419.9*	*427.7*
Hydrocarbon Gas Liquids	**142.1**	**186.7**	**243.7**	**211.1**	**174.3**	**225.4**	**269.1**	*227.3*	*188.0*	*235.0*	*274.0*	*228.3*	**211.1**	*227.3*	*228.3*
Unfinished Oils	**88.1**	**88.9**	**82.3**	**86.4**	**88.6**	**87.0**	**84.3**	*80.1*	*90.7*	*87.9*	*86.5*	*78.8*	**86.4**	*80.1*	*78.8*
Other HC/Oxygenates	**34.4**	**29.7**	**27.3**	**31.6**	**34.3**	**30.1**	**29.7**	*30.0*	*32.1*	*30.8*	*30.5*	*30.8*	**31.6**	*30.0*	*30.8*
Total Motor Gasoline	**238.5**	**221.0**	**209.5**	**224.4**	**225.3**	**223.2**	**227.1**	*234.9*	*234.9*	*231.6*	*219.7*	*231.3*	**224.4**	*234.9*	*231.3*
Finished Motor Gasoline	**17.3**	**17.1**	**17.6**	**17.2**	**14.7**	**17.6**	**17.6**	*20.0*	*17.3*	*17.9*	*19.3*	*21.6*	**17.2**	*20.0*	*21.6*
Motor Gasoline Blend Comp.	**221.2**	**203.9**	**191.9**	**207.2**	**210.6**	**205.6**	**209.5**	*214.9*	*217.5*	*213.7*	*200.3*	*209.7*	**207.2**	*214.9*	*209.7*
Jet Fuel	**35.6**	**39.4**	**36.5**	**35.0**	**37.7**	**42.7**	**42.6**	*39.0*	*38.4*	*38.1*	*38.3*	*35.4*	**35.0**	*39.0*	*35.4*
Distillate Fuel Oil	**114.7**	**111.3**	**110.5**	**118.9**	**112.3**	**112.6**	**118.7**	*121.8*	*112.9*	*116.3*	*117.6*	*119.1*	**118.9**	*121.8*	*119.1*
Residual Fuel Oil	**28.1**	**29.3**	**27.4**	**30.7**	**29.6**	**30.4**	**27.5**	*26.9*	*28.1*	*27.9*	*26.1*	*25.4*	**30.7**	*26.9*	*25.4*
Other Oils (g)	**58.6**	**56.3**	**49.3**	**54.3**	**63.3**	**58.3**	**52.5**	*53.6*	*62.5*	*60.1*	*50.7*	*52.0*	**54.3**	*53.6*	*52.0*
Total Commercial Inventory	**1154.2**	**1180.4**	**1215.6**	**1222.6**	**1230.8**	**1264.4**	**1265.7**	*1233.5*	*1236.2*	*1266.1*	*1263.9*	*1228.8*	**1222.6**	*1233.5*	*1228.8*
Crude Oil in SPR	**566.1**	**493.3**	**416.4**	**372.0**	**371.2**	**347.2**	**351.4**	*352.3*	*352.3*	*352.3*	*352.3*	*352.3*	**372.0**	*352.3*	*352.3*

(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 October 5, 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 - October 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	**104.80**	**107.29**	**109.76**	**110.16**	**111.18**	**112.52**	**113.76**	*114.32*	*114.18*	*114.26*	*114.28*	*115.72*	**108.02**	*112.96*	*114.61*
Alaska	**1.06**	**1.00**	**0.96**	**1.07**	**1.08**	**1.01**	**0.92**	*1.02*	*1.03*	*0.95*	*0.87*	*1.00*	**1.02**	*1.01*	*0.96*
Federal GOM (a)	**2.06**	**2.10**	**2.16**	**2.12**	**2.13**	**1.89**	**2.09**	*2.10*	*2.04*	*1.99*	*1.90*	*1.92*	**2.11**	*2.05*	*1.96*
Lower 48 States (excl GOM)	**101.69**	**104.19**	**106.64**	**106.97**	**107.97**	**109.63**	**110.75**	*111.19*	*111.11*	*111.32*	*111.51*	*112.81*	**104.89**	*109.90*	*111.69*
Total Dry Gas Production	**96.63**	**98.92**	**101.20**	**101.57**	**102.44**	**103.18**	**104.37**	*104.87*	*104.74*	*104.81*	*104.83*	*106.15*	**99.60**	*103.72*	*105.13*
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**	**11.37**	*11.90*	*12.30*	*12.61*	*13.09*	*14.61*	**10.59**	*11.62*	*13.15*
Pipeline Gross Imports	**8.89**	**7.73**	**7.84**	**8.41**	**8.45**	**7.32**	**7.75**	*7.58*	*8.36*	*7.02*	*7.26*	*7.50*	**8.22**	*7.77*	*7.53*
Pipeline Gross Exports	**8.46**	**8.52**	**8.13**	**8.19**	**8.91**	**8.73**	**9.16**	*9.31*	*9.52*	*8.89*	*9.21*	*9.64*	**8.32**	*9.03*	*9.32*
Supplemental Gaseous Fuels	**0.19**	**0.20**	**0.20**	**0.20**	**0.22**	**0.17**	**0.21**	*0.20*	*0.20*	*0.20*	*0.20*	*0.21*	**0.20**	*0.20*	*0.20*
Net Inventory Withdrawals	**20.14**	**-10.25**	**-8.94**	**2.33**	**11.97**	**-11.69**	**-6.48**	*2.35*	*14.24*	*-12.24*	*-6.54*	*2.74*	**0.74**	*-1.00*	*-0.46*
Total Supply	**106.04**	**77.30**	**82.49**	**94.03**	**102.81**	**78.50**	**85.35**	*93.85*	*105.82*	*78.33*	*83.49*	*92.41*	**89.91**	*90.09*	*90.00*
Balancing Item (b)	**-1.24**	**-1.28**	**-1.73**	**-1.57**	**0.18**	**-0.54**	**-1.51**	*-1.78*	*-2.23*	*-1.71*	*-1.67*	*-0.86*	**-1.46**	*-0.92*	*-1.62*
Total Primary Supply	**104.81**	**76.02**	**80.76**	**92.46**	**102.99**	**77.95**	**83.84**	*92.08*	*103.59*	*76.62*	*81.82*	*91.55*	**88.46**	*89.17*	*88.38*
Consumption (billion cubic feet per day)															
Residential	**25.97**	**7.80**	**3.56**	**17.28**	**23.50**	**7.29**	**3.72**	*16.07*	*24.74*	*7.60*	*3.85*	*16.40*	**13.60**	*12.60*	*13.13*
Commercial	**15.55**	**6.65**	**4.74**	**11.61**	**14.51**	**6.43**	**4.92**	*11.03*	*14.74*	*6.54*	*5.13*	*11.25*	**9.61**	*9.20*	*9.41*
Industrial	**25.73**	**22.46**	**21.68**	**23.72**	**24.83**	**22.42**	**21.68**	*23.62*	*24.55*	*21.55*	*21.28*	*23.57*	**23.39**	*23.13*	*22.73*
Electric Power (c)	**28.39**	**30.99**	**42.36**	**30.94**	**30.78**	**33.34**	**44.76**	*32.25*	*29.99*	*32.41*	*42.83*	*31.14*	**33.20**	*35.31*	*34.11*
Lease and Plant Fuel	**5.00**	**5.12**	**5.24**	**5.26**	**5.31**	**5.37**	**5.43**	*5.46*	*5.45*	*5.46*	*5.46*	*5.53*	**5.16**	*5.39*	*5.47*
Pipeline and Distribution Use	**3.98**	**2.83**	**3.01**	**3.48**	**3.87**	**2.93**	**3.14**	*3.47*	*3.92*	*2.87*	*3.07*	*3.46*	**3.32**	*3.35*	*3.33*
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	**104.81**	**76.02**	**80.76**	**92.46**	**102.99**	**77.95**	**83.84**	*92.08*	*103.59*	*76.62*	*81.82*	*91.55*	**88.46**	*89.17*	*88.38*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,401**	**2,325**	**3,146**	**2,925**	**1,850**	**2,900**	**3,495**	*3,279*	*1,982*	*3,097*	*3,698*	*3,446*	**2,925**	*3,279*	*3,446*
East Region (d)	**242**	**482**	**759**	**698**	**334**	**646**	**851**	*779*	*382*	*684*	*871*	*798*	**698**	*779*	*798*
Midwest Region (d)	**296**	**557**	**917**	**831**	**417**	**701**	**996**	*904*	*442*	*736*	*1,018*	*921*	**831**	*904*	*921*
South Central Region (d)	**587**	**885**	**1,006**	**1,042**	**919**	**1,136**	**1,094**	*1,122*	*838*	*1,201*	*1,236*	*1,210*	**1,042**	*1,122*	*1,210*
Mountain Region (d)	**90**	**137**	**184**	**158**	**79**	**171**	**240**	*192*	*117*	*160*	*223*	*194*	**158**	*192*	*194*
Pacific Region (d)	**165**	**240**	**247**	**167**	**74**	**216**	**278**	*250*	*180*	*287*	*317*	*293*	**167**	*250*	*293*
Alaska	**21**	**25**	**32**	**30**	**27**	**30**	**37**	*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 October 5, 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.

https://www.qatarenergy.qa/en/MediaCenter/Pages/newsdetails.aspx?ItemId=3775

QATARENERGY AND TOTALENERGIES SIGN A 27-YEAR LNG SUPPLY AGREEMENT FOR UP TO 3.5 MTPA TO FRANCE -

DOHA, Qatar • 11 October 2023 – Affiliates of QatarEnergy and TotalEnergies signed two long-term LNG sale and purchase agreements (SPAs) for the supply of up to 3.5 million tons per annum (MTPA) of LNG from Qatar to France.

Pursuant to the SPAs, LNG will be delivered ex-ship to the Fos Cavaou LNG receiving terminal in southern France, with deliveries expected to start in 2026 for a term of 27 years.

The LNG volumes will be sourced from the two joint ventures between QatarEnergy and TotalEnergies that hold interests in Qatar's North Field East (NFE) and North field South (NFS) projects.

The SPAs were signed by His Excellency Mr. Saad Sherida Al-Kaabi, the Minister of State for Energy Affairs, the President and CEO of QatarEnergy, and Mr. Patrick Pouyanné, the Chairman and CEO of TotalEnergies, at a special event held in Doha in the presence of senior executives from both companies.

Commenting on this occasion, His Excellency Minister Al-Kaabi said: "These two new agreements we have signed with our partner TotalEnergies, demonstrate our continued commitment to the European markets in general, and to the French market in particular, thus contributing to France's energy security. The State of Qatar has been supplying the French market with LNG since 2009, and the new agreements reflect the joint effort of two trusted partners, QatarEnergy and TotalEnergies, to provide reliable and credible LNG supply solutions to customers across the globe."

His Excellency Minister Al-Kaabi added: "Our commitment to ensure continued and reliable supplies of energy to Europe and the rest of the world is underpinned by our substantial and ongoing investments across the entire gas value chain. We are proud that our new LNG expansion in Qatar is the least carbon intensive project in the world. Our efforts span from bolstering production capacity in Qatar to the development of the Golden Pass LNG export project in the United States, in addition to our commitments in various LNG receiving terminals in Europe, including the Montoir-de-Bretagne LNG Terminal in France."

TotalEnergies' partnership in the North Field LNG Expansion Projects is made up of a 6.25% share in the NFE project and a 9.375% share in the NFS project.

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

Posted 11am on July 14, 2021

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

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

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

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

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

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

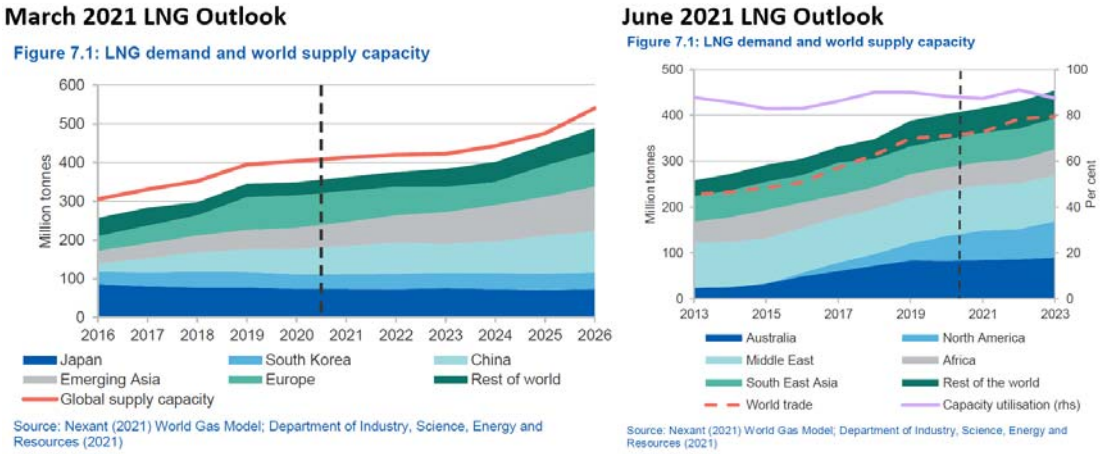
Common theme - new LNG supply is being delayed ie. [Total] Mozambique. Don't forget need capacity>demand due to normal maintenance, etc. Positive for LNG." (ii) Chevron's Gorgon. A big LNG story in H2/20 was the emergence of weld quality issues in the propane heat exchangers at Train 2, which required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

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

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

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

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

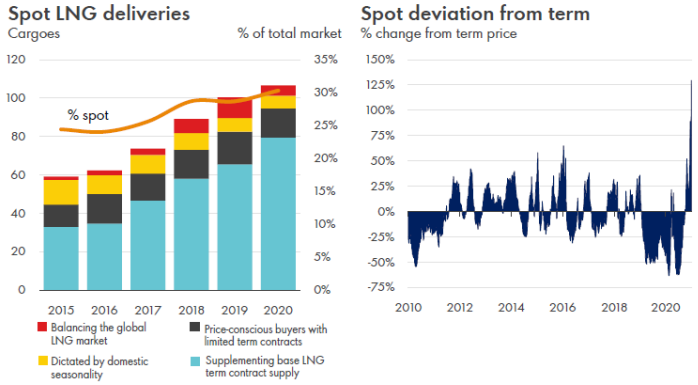


Source: Australia Resources and Energy Quarterly

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

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

Spot LNG deliveries and Spot deviation from term price



Source: Shell LNG Outlook 2021 on Feb 25, 2021

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

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

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

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

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

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

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

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

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

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

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

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

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

Time stamped as of 4:45am MT Oct 15
https://www.facebook.com/people/Offshore-Alliance/100063786371409/

Offshore Alliance

5h ·

More than 3 weeks ago, Chevron agreed to incorporate Recommendations from the FWC into the draft Chevron facility EBA's. The Union also required Chevron to address the drafting uncertainties in the proposed EBA's.

Chevron failed on all counts and the Offshore Alliance gave Notice of Protected Industrial Action commencing on Thursday 19th October.

On Friday evening, Chevron sent every Offshore Alliance member an email, demanding that they tell the Offshore Alliance what they want to do in regards to Protected Industrial Action.

Our members have done exactly that.

In a secret ballot over the past 36 hours, 410 members voted in a secret ballot, with 91% support of kicking off PIA on Thursday – for the second time.

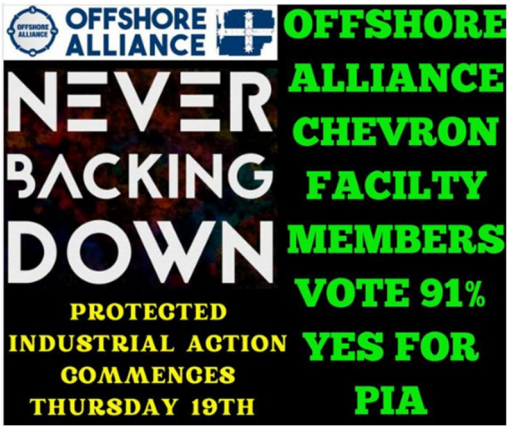
Members have made it clear that they want Chevron to stop twisting the draft terms of our EBA's and are prepared to ramp up PIA until our EBA's are properly sorted.

Members have also raised concerns about the need for Chevron to permanently exclude behavioural standards from level progression and want answers from Chevron about the perceived attack on members' annual bonuses.

The Offshore Alliance is fed up with the games Chevron and their lawyers are playing.

This includes Chevorn 'accidentally' trying to snip $4K off our members Field Loading allowance..

Just another accidental mistake according to the Chevron lawyers…..



Google Translate of Israel Ministry of Energy and Infrastructure Facebook post on October 9, 2023, https://www.facebook.com/energy.gov.il

Survived the energy and infrastructure

7h ·

The Director General of the Ministry of Energy and Infrastructure, Kobi Blitstein, conducted a situation assessment this morning regarding the preparation of the energy sector for the state of emergency declared in the State of Israel.

The CEO reiterated the importance of maintaining the functional continuity of the energy sector and made sure that all the factors are prepared and working for this purpose.

Due to the situation, the security establishment ordered to temporarily stop the supply of natural gas from the Tamar reservoir, and the economy's energy needs will be met with other fuels. The electricity sector is prepared to operate the stations with alternative fuels whenever necessary.

Blitstein emphasized that the top priority is connecting the disconnected customers to electricity, and noted to praise the work of the electric company's personnel in the last few days to connect them. The security division of the ministry opened the situation room in Jerusalem already on Saturday morning, in order to continue to make sure that the continuity of supply is maintained in the energy sector.

The Natural Resources Administration, the Natural Gas Authority, the Fuel and Gas Administration in the Ministry, as well as the Water Authority, the Electricity Authority, the Nega Company, the Electric Company, the Natgaz Company, the 501 Company and Makoro took part in the assessment of the situation.

In the photo: the situation room in Jerusalem From the right: Deputy Director General, Barak Naftali, Director General of the Ministry, Kobi Blitstein, Director of the Senior Security, Emergency, Information and Cyber Division, Yaron Zvik, Advisor to the Director General, Efrat Bacher Nathaniel, Accountant of the Ministry, Roni Zavoroff, Chairman of the Authority The water, Yehezkel Lipshitz. Photo: Ministry of Energy and Infrastructure

For Immediate Release
October 12, 2023
Lynn Helms, Ph.D., Director ND Department of Mineral Resources

NORTH Dakota Be Legendary.™ | Mineral Resources

North Dakota Department of Mineral Resources October Director's Cut and August 2023 Production Numbers

Oil Production Numbers

July	36,601,452 barrels	= 1,180,692 barrels/day (final) **RF +7%**
New Mexico	**53,660,799 barrels**	= **1,730,994 +1%**
August	37,799,687 barrels	= 1,219,345 barrels/day **+3% RF +11%**
	1,519,037	all-time high Nov 2019
	1,177,898 barrels/day	= 97% from Bakken and Three Forks
	41,447 barrels/day	= 3% from Legacy Pools

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

Crude Price ($barrel)	ND Light Sweet	WTI	ND Market	
July	70.35	76.03	71.31	**RF+1%**
August	77.15	81.32	76.66	**RF+10%**
Today	77.60	83.49	80.55	**RF+15%**
All-time high (6/2008)	125.62	134.02	126.75	
Revised Revenue Forecast			**70.00**	

Gas Production and Capture

July	102,056,651 MCF	=	3,292,150 MCF/Day	
96% Capture	97,690,788 MCF	=	3,151,316 MCF/Day	
August	102,386,154 MCF	=	3,302,779 MCF/Day	**+0%**
95% Capture	97,626,305 MCF	=	3,149,236 MCF/Day	

3,302,779 MCF/day **NEW** all-time high production August 2023
3,151,316 MCF**/**day all-time high capture July 2023

Wells Permitted

July	70	
August	87	
September	59	All-time high 370 in 10/2012

Rig Count

July	37	
August	37	
September	37	
Today	38	All-time high 218 on 5/29/2012
Federal Surface	0	
New Mexico	106	

Waiting on Completions

July	419
August	376

Inactive

July	1,665
August	1,624

Completed

July	83 (Preliminary)
August	91 (Preliminary)
September	129 (Preliminary)

Producing

July	18,185	
August	18,380 (Preliminary)	**NEW** All-time high 18,380 August/2023
	16,118 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	11	9
September	0	2
Total	65	14

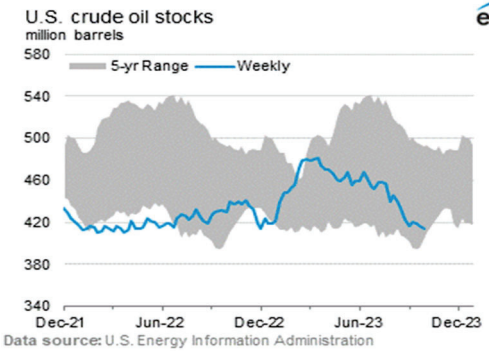
Weekly updates are available at [Initial Grant Information - Plugging and Reclamation | Department of Mineral Resources, North Dakota]

Fort Berthold Reservation Activity

	Total	Fee Land	Trust Land
Oil Production (barrels/day)	133,683	49,088	84,595
Drilling Rigs	3	0	3
Active Wells	2,658	650	2,008
Waiting on Completion	12		
Approved Drilling Permits	158	33	125
Potential Future Wells	3,894	1,114	2,780

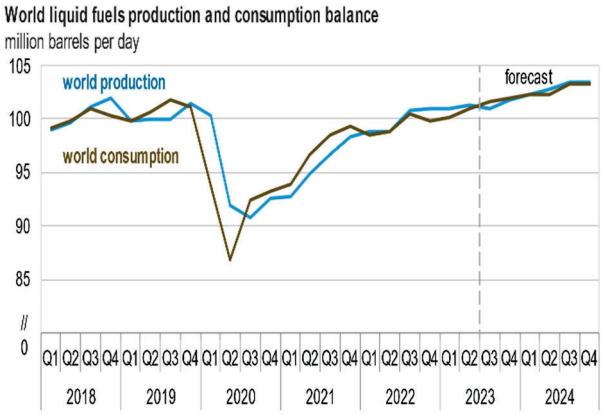
Comments:

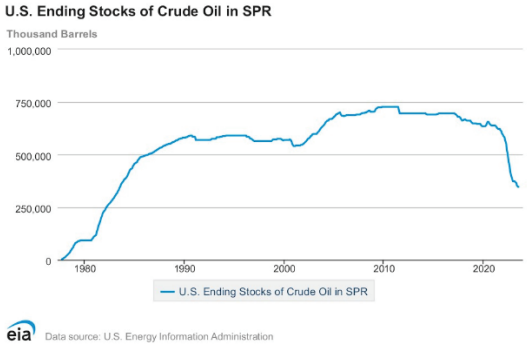
The drilling rig count remains low due to workforce, mergers, and acquisitions but is expected to return to the mid-forties with a gradual increase expected over the next 2 years.



There are 14 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. Middle East conflict, Russia sanctions, China economic activity, potential 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, 2 pending.

US natural gas storage is 5% 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 $2.27/MCF today. There is continues to be oversupply in the Midwest US. Current oil to gas price ratio is 35:1. The state-wide gas flared volume from July to August increased 13 MMCFD to 154 MMCF per day, the statewide percent flared increased to 5% and Bakken gas capture percentage was unchanged at 96%. The historical high flared percent was 36% in 09/2011.

Gas capture details are as follows:

Statewide	95%
Statewide Bakken	96%
Non-FBIR Bakken	95%
FBIR Bakken	98%
Trust FBIR Bakken	97%
Fee FBIR	98%
Deep Water Creek Bay	90%
Twin Buttes	57%
Charlson	90%

The Commission established the following gas capture goals:

74%	October 1, 2014 - December 31, 2014
77%	January 1, 2015 - March 31, 2016
80%	April 1, 2016 - October 31, 2016
85%	November 1, 2016 - October 31, 2018
88%	November 1, 2018 - October 31, 2020
91%	November 1, 2020

BLM On 1/27/21 President Biden issued an executive order that mandates a "pause" on new oil and gas leasing on federal lands, onshore and offshore, "to the extent consistent with applicable law," while a comprehensive review of oil and gas permitting and leasing is conducted by the Interior Department. There is no time limit on the review, which means the president's moratorium on new leasing is indefinite. The order does not restrict energy activities on lands the government holds in trust for Native American tribes.

On 7/7/21 North Dakota sued the Department of Interior (DOI), Secretary of Interior Debra Haaland, Bureau of Land Management (BLM), Director of the BLM Nada Culver, and Director of the Montana-Dakotas BLM John Mehlhoff in US District Court for the District of North Dakota. The lawsuit requested the court:

Compel the Federal Defendants to hold quarterly lease sales. Oral arguments are scheduled for 1/12/22 in Bismarck.

Prohibit the Federal Defendants from cancelling quarterly lease sales.

Enjoin the Secretary implementing a moratorium on federal lease sales.

MONTHLY UPDATE

OCTOBER 2023 PRODUCTION & TRANSPORTATION

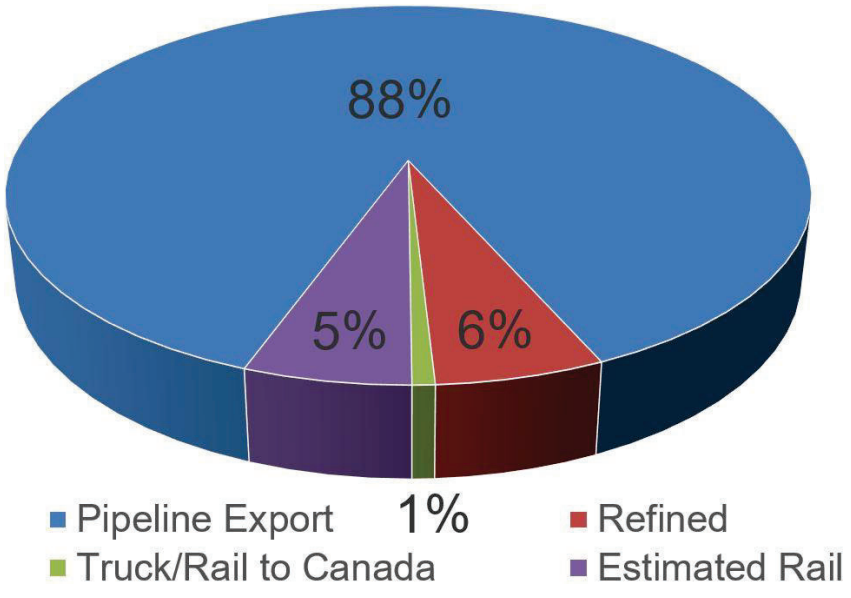
North Dakota Oil Production

Month	Monthly Total, BBL	Average, BOPD
July 2023 - Final	36,601,452	1,180,692
Aug. 2023 - Prelim.	37,799,687	1,219,345

North Dakota Natural Gas Production

Month	Monthly Total, MCF	Average, MCFD
July 2023 - Final	102,056,651	3,292,150
Aug. 2023 - Prelim.	102,386,154	3,302,779

Estimated Williston Basin Oil Transportation, Aug. 2023



CURRENT DRILLING ACTIVITY:

NORTH DAKOTA[1]

38 Rigs

EASTERN MONTANA[2]

2 Rigs

SOUTH DAKOTA[2]

0 Rigs

SOURCE (OCT 12, 2023):

1. ND Oil & Gas Division
2. Baker Hughes

PRICES:

Crude (WTI): $82.46

Crude (Brent): $85.63

NYMEX Gas: $3.34

SOURCE: BLOOMBERG (OCT 12, 2023 2PM EST)

GAS STATS*

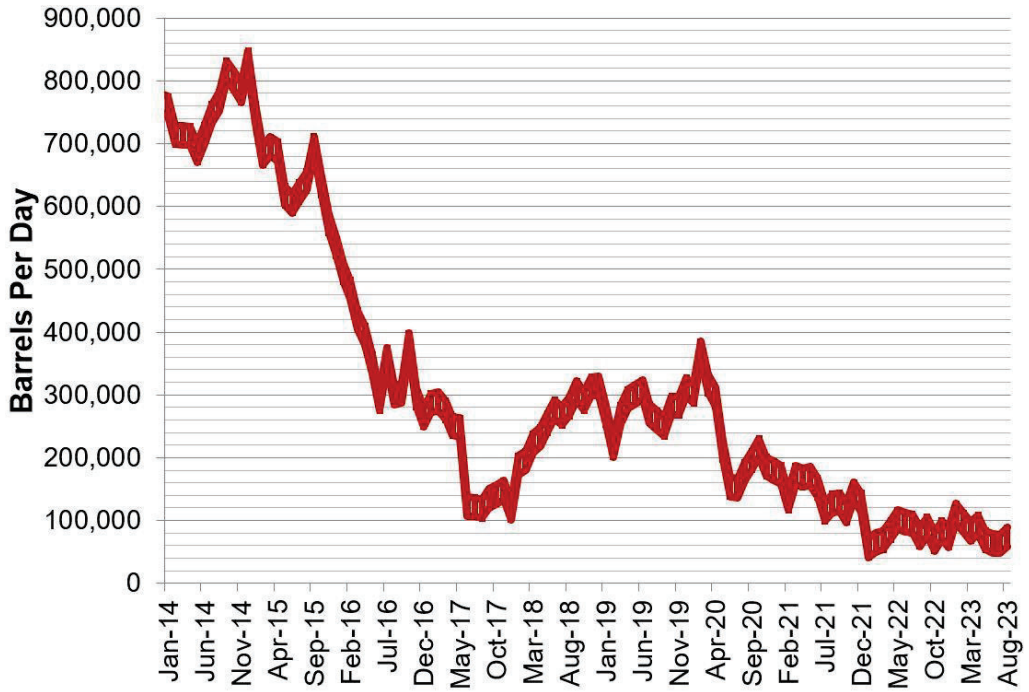
95% CAPTURED & SOLD

4% FLARED DUE TO CHALLENGES OR CONSTRAINTS ON EXISTING GATHERING SYSTEMS

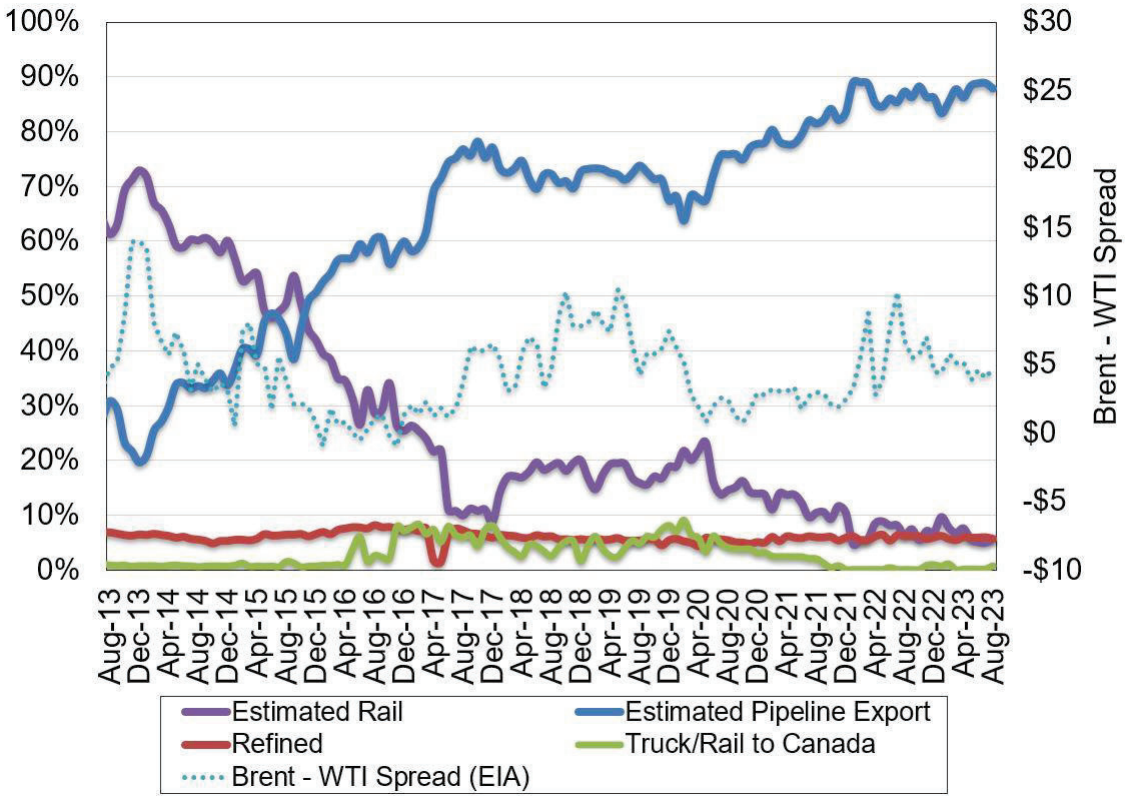
1% FLARED FROM WELL WITH ZERO SALES

AUG 2023 NON-CONF DATA

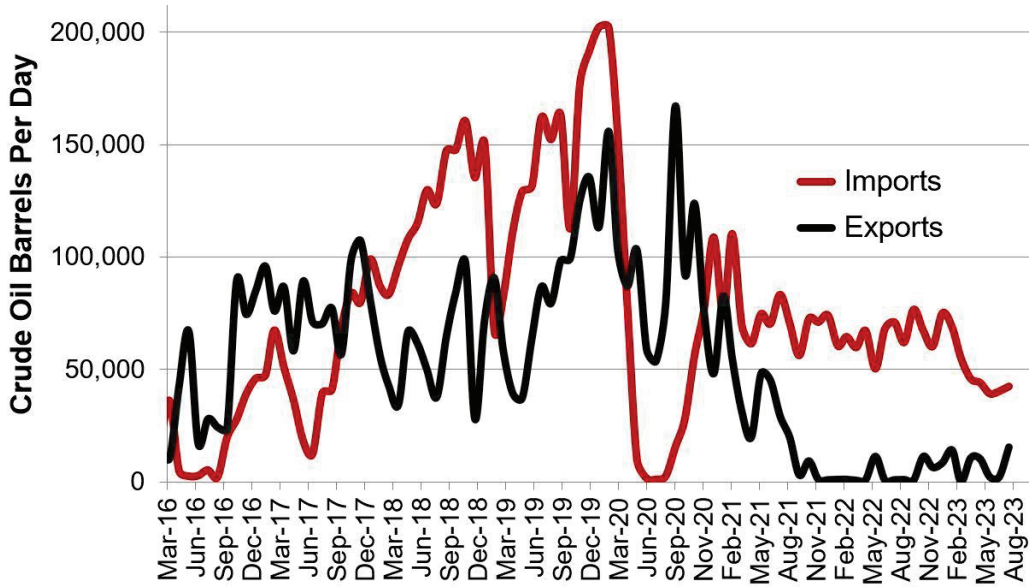
Estimated North Dakota Rail Export Volumes



Estimated Williston Basin Oil Transportation

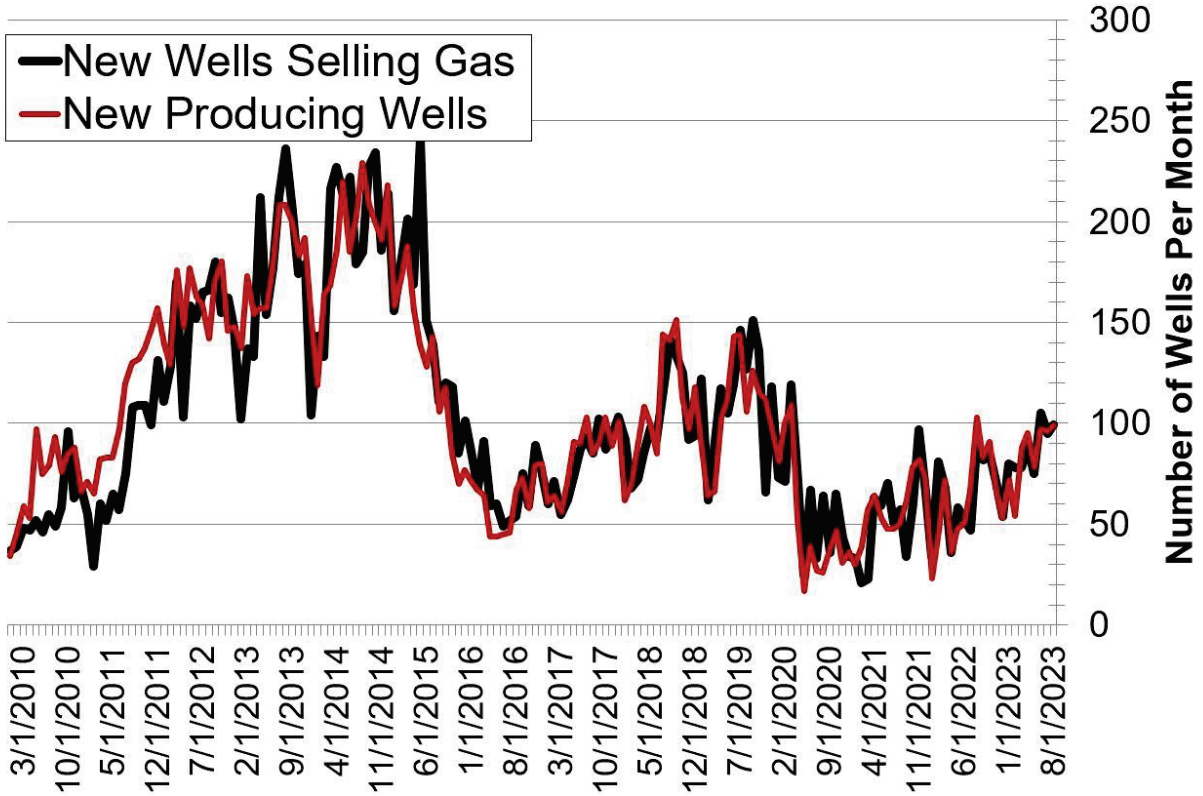


Williston Basin Truck/Rail Imports and Exports with Canada



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	58,889	2,274	1,227,768
July	1,180,692			
August	1,219,345			
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*

https://calgaryherald.com/opinion/columnists/varcoe-trans-mountain-ceo-dawn-farrell-interview

Varcoe: Trans Mountain CEO expects opening of pipeline expansion by end of March, potential sale within two years

'I would say in terms of the construction, we're in the ninth inning,' Trans Mountain Corp. CEO Dawn Farrell said in her first interview since taking the job

Chris Varcoe • Calgary Herald
Published Oct 05, 2023 • Last updated 1 hour ago • 5 minute read

Trans Mountain Corporation CEO Dawn Farrell at the company's downtown Calgary offices on Thursday, Oct. 5. Gavin Young/Postmedia

Trans Mountain Corp. CEO Dawn Farrell says the oil pipeline expansion project is on track to begin commercial operations by the end of March, but acknowledges the mammoth development still faces pressures as construction enters the home stretch.

In her first interview since taking on the job as chief executive of the federal Crown corporation, Farrell said the $30.9-billion project remains “in that range,” with only 16 kilometres of pipeline left to put in the ground.

Once construction is complete, it will allow for testing, commissioning work and filling the line with 4.5 million barrels of oil, which should begin near the end of January.

Concluding a long-awaited sale of the pipeline back into private-sector hands could happen potentially in early 2025, she said in a wide-ranging discussion on the project’s future.

“I would say in terms of the construction, we’re in the ninth inning. So, we’re getting close to finishing,” Farrell, who took over the corporation’s helm in August 2022, said Thursday.

“We’re aiming to have first oil to (the Westridge Marine Terminal) by the end of the first quarter of 2024 . . . As long as we don’t run into sort of geological risks, I feel very confident that we’re in that time frame.”

Ottawa bought the pipeline from Kinder Morgan Canada in 2018 for $4.4 billion after it appeared the owners were set to walk away from the development.

The Trans Mountain expansion project is seen as a critical piece of energy infrastructure for Canada’s oil sector, nearly tripling the capacity of the existing pipeline to 890,000 barrels per day.

The 1,150-kilometre pipeline runs from the Edmonton area to a terminal in Burnaby, B.C.

Oil and refined products shipped on the line will be able to access growing markets in Asia, although many analysts believe much of the crude could end up moving south to U.S. customers.

Farrell, the former CEO of Calgary-based TransAlta Corp., remains confident the pipeline will deliver economic value for the country, even as critics expect the federal government will likely have to take a writedown to eventually sell the development.

The capital costs have escalated from $5.4 billion in 2013 to now top $30 billion.

“I think we’re close (on the latest price tag). For sure, there’s pressure on it because every time there’s a bit of a delay or you have to do a regulatory hearing, or you have to find a new methodology, that puts pressure on the contingency and on the reserve. But we are close, in that range,” she added, noting rising interest rates are another factor.

“The biggest pressure on this project right now is the timing, for sure. So every month of delay is $200 million that accrues to the project.”

The journey to get the development built is one for the Canadian history books, complete with regulatory and legal delays, changing timelines and rising budgets, the challenges of building essential infrastructure during a pandemic — and plenty of politics.

It also comes as other proposed oil pipelines, including Northern Gateway, Keystone XL and Energy East failed to launch.

The original Trans Mountain line was constructed 70 years ago; an application to move ahead with the expansion project was filed with Canadian regulators a decade ago.

It received initial approval in 2016, after the regulator determined the initiative was in Canada’s public interest.

The project has staunch supporters, including the Alberta government.

Shippers have signed up for long-term contacts to take up about 80 per cent of the available capacity, although there are some disagreements over the pipeline’s proposed tolls, given the rising construction tab.

“It’s a critical piece of infrastructure,” said Tristan Goodman, president of the Explorers and Producers Association of Canada.

The development also has detractors who believe the Canadian government will end up losing money on Trans Mountain.

Ottawa has provided loan guarantees to Trans Mountain, including $10 billion in such guarantees in 2022, according to Reuters.

“I will be very surprised if the final price tag is the current budget of $30.9 billion,” said Eugene Kung, a staff lawyer with West Coast Environmental Law.

“Its legacy is going to be one of the biggest and most expensive mistakes by a federal government.”

Canada is the world’s fourth-largest oil producer and output next year could potentially increase by 250,000 barrels per day, according to S&P Global Commodity Insights.

The pipeline expansion is needed and will help prevent the discount facing western Canadian heavy oil from widening sharply during periods of pipeline constraints, said S&P vice-president Kevin Birn.

“Canada needs this pipeline to prevent differential blowouts in the future. It needs it from a strategic point of view, being able to access global markets,” Birn said.

“It potentially could be the last major new incremental pipeline being completed (in Canada).”

Farrell said the project will generate about $40 billion over two decades of additional royalties and taxes to Alberta, and $12 billion in additional taxes to the federal government.

The federal government has said it will sell the project, once it is fully derisked, and Indigenous groups have expressed interest in buying a stake.

As for the potential of a writedown, there are efforts to minimize that from happening.

“What I’m trying to do is minimize any capital that’s left behind, because effectively what happened here is the federal government has used the credit card of the federal government to fund this project. And once the project transfers to the private sector, we’re paying back the credit card,” she said.

“I’ve got a lot of ambition to pay back as much of that credit card as we can because I think that’s the fair thing to do.”

The Trans Mountain Corp. CEO also believes the project will be able to find a buyer. However, it will take time.

“This is a $30-plus billion dollar sale. This will be one of the biggest sales, if not the biggest sale, that’s ever occurred in the country,” Farrell added.

“To the extent that we get everything ready to go for next spring, that gives us the time then through the spring and the fall to engage potential buyers and potential opportunities.

“So, I would put having a conclusion on that until late in 2024, potentially early ‘25.”

Chris Varcoe is a Calgary Herald columnist. cvarcoe@postmedia.com

https://home.treasury.gov/news/press-releases/jy1795

PRESS RELEASES

Treasury Sanctions Entities for Transporting Oil Sold Above the Coalition Price Cap to Restrict Russia's War Machine

October 12, 2023

WASHINGTON — Today, the U.S. Department of the Treasury's Office of Foreign Assets Control (OFAC) is imposing sanctions on two entities and identifying as blocked property two vessels that used Price Cap Coalition service providers while carrying Russian crude oil above the Coalition-agreed price cap. This action underscores the Treasury Department's commitment with its international partners to responsibly reducing Russian government oil profits and constraining the Russian war machine. Treasury and the coalition will remain vigilant in monitoring the compliance of shipping companies and vessels participating in the Russian oil trade while using the services of Price Cap Coalition service providers.

In addition to today's sanctions actions, the Price Cap Coalition has also published a Coalition Advisory for the Maritime Oil Industry and Related Sectors. The Advisory, which is directed at both government and private sector actors involved in the maritime trade of crude oil and refined petroleum products, provides recommendations concerning specific best practices and reflects our commitment to promoting responsible practices in the industry, preventing and disrupting sanctioned trade, and enhancing compliance with the price cap.

"Today's action demonstrates our continued commitment to reduce Russia's resources for its war against Ukraine and to enforce the price cap," said Deputy Secretary of the Treasury Wally Adeyemo. "We remain committed to implementing a price cap policy that has two goals: reducing the oil profits upon which Russia relies to wage its unjust war against Ukraine and keeping global energy markets stable and well-supplied despite turbulence caused by Russia's unprovoked invasion of Ukraine. We will continue to take actions to achieve these two goals."

THE PRICE CAP

The United States is part of an international coalition (the Price Cap Coalition), including the G7, the European Union, and Australia, that have agreed to prohibit the import of crude oil and petroleum products of Russian Federation origin. These countries, home to many best-in-class financial and professional services, have also agreed to restrict a broad range of services related to the maritime transport of crude oil and petroleum products of Russian Federation origin—unless that oil is bought and sold at or below the specific price caps established by the Coalition or is authorized by a license. This policy is known as the "price cap." The price cap is intended to maintain a reliable supply of crude oil and petroleum products to the global market while reducing the profits the Russian Federation earns from oil after its own war of choice against Ukraine inflated global energy prices.

All Coalition members are dedicated to enforcing the price cap, as noted in the Coalition statement regarding this U.S. action, and to promoting responsible practices in the maritime oil industry, as outlined in the Coalition Advisory for the Maritime Oil Industry and Related Sectors.

VESSELS CARRYING RUSSIAN OIL PRICED ABOVE THE PRICE CAP

Today, OFAC demonstrates the importance of compliance with the price cap policy and continues its efforts to constrain Russia's ability to prosecute its war against Ukraine.

The crude oil price cap took effect in December 2022 with a cap on Russian crude oil at $60 per barrel. The **SCF Primorye** carried Novy Port crude oil priced above $75 per barrel from a port in the Russian Federation after the crude oil price cap took effect. United Arab Emirates-based **Lumber Marine SA** is the registered owner of the SCF Primorye.

As described in OFAC's April 17, 2023 Alert, OFAC is also aware of reports that Eastern Siberia Pacific Oil (ESPO) and other crudes exported via Pacific ports in the Russian Federation, such as Kozmino, may be trading above the price cap and may be using covered services provided by U.S. persons. OFAC continues to

monitor this activity closely. The **YasaGolden Bosphorus** carried ESPO crude oil priced above $80 per barrel after the crude oil price cap took effect. Turkiye-based **Ice Pearl Navigation Corp** is the registered owner of the Yasa Golden Bosphorus.

Both the SCF Primorye (IMO 9421960) and the Yasa Golden Bosphorus (IMO 9334038), which conducted port calls in the Russian Federation, used U.S.-based service providers while transporting the Russian origin oil.

Lumber Marine SA and Ice Pearl Navigation Corp were both designated pursuant to Executive Order 14024 for operating or having operated in the marine sector of the Russian Federation economy. OFAC also identified the SCF Primorye and the Yasa Golden Bosphorus as property in which Lumber Marine SA and Ice Pearl Navigation Corp, respectively, have an interest.

SANCTIONS IMPLICATIONS

As a result of today's action, all property and interests in property of the persons above that are in the United States or in the possession or control of U.S. persons are blocked and must be reported to OFAC. In addition, any entities that are owned, directly or indirectly, 50 percent or more by one or more blocked persons are also blocked. All transactions by U.S. persons or within (or transiting) the United States that involve any property or interests in property of designated or blocked persons are prohibited unless authorized by a general or specific license issued by OFAC, or exempt. These prohibitions include the making of any contribution or provision of funds, goods, or services by, to, or for the benefit of any blocked person and the receipt of any contribution or provision of funds, goods, or services from any such person.

The power and integrity of OFAC sanctions derive not only from OFAC's ability to designate and add persons to the SDN List, but also from its willingness to remove persons from the SDN List consistent with the law. The ultimate goal of sanctions is not to punish, but to bring about a positive change in behavior. For information concerning the process for seeking removal from an OFAC list, including the SDN List, please refer to OFAC's Frequently Asked Question 897. For detailed information on the process to submit a request for removal from an OFAC sanctions list, please click here.

For identifying information on the entities sanctioned and vessels identified today, click here.

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https://home.treasury.gov/news/press-releases/jy1797

Price Cap Coalition Advisory for the Maritime Oil Industry and Related Sectors

October 12, 2023

Best Practices in Response to Recent Developments in the Maritime Oil Trade

The Price Cap Coalition is issuing this advisory to provide recommendations concerning specific best practices in the maritime oil industry. This advisory reflects our efforts to promote responsible practices in the industry to prevent and disrupt sanctioned trade, and enhance compliance with the price caps on crude oil and petroleum products of Russian Federation origin, put in place by the G7, the European Union, and Australia ("the Price Cap Coalition" or "Coalition").[1] The advisory is directed at both government and private sector actors ("industry stakeholders") involved in the maritime trade of crude oil and refined petroleum products.[2]

The Coalition is committed to encouraging responsible maritime trade in crude oil and petroleum products within a reputable, safe, and secure market. Recent developments in the maritime oil trade, described below, expose industry stakeholders to increased safety, environmental, economic, reputational, financial, logistical, and legal risks. This advisory outlines best practices industry stakeholders can adopt to reduce risks while promoting the safe flow of oil on the market. These recommendations build upon previous guidance issued by the Price Cap Coalition such as the May 2020 Sanctions Advisory for the Maritime Industry,[3] the Office of Financial Sanctions Implementation (OFSI) December 2020 Maritime Guidance,[4]the Office of Foreign Assets Control (OFAC) February 2023 Guidance on Implementation of the Price Cap Policy,[5] OFAC's April 2023 Alert on Possible Evasion of the Russian Oil Price Cap,[6] OFSI's UK Maritime Services Ban and Oil Price Cap Industry Guidance,[7] and the European Commission's Oil Price Cap Guidance.[8] By adopting the recommendations included in this advisory and previous guidance documents, industry stakeholders can reduce their exposure to possible risks associated with recent developments in the maritime oil trade.

INCREASED RISKS FROM RECENT DEVELOPMENTS IN THE MARITIME OIL TRADE

Geopolitical changes continue to impact and shape the world's maritime oil trade, shifting trade routes, broadening the scope of shipping service providers, and, at times, resulting in loss of transparency. A "shadow" trade has become more pronounced, often involving actors and cargo affiliated with countries and persons subject to sanctions, or associated with other illicit activity. This shadow trade is characterized by irregular and often high-risk shipping practices that generate significant concerns for both the public and private sectors. These heightened risks include, but are not limited to:

- *Maritime Safety and Marine Environment*: The vessels engaged in this shadow trade, sometimes called the "shadow fleet," are typically older ships, many of which are operating past their traditional lifespans. These vessels are often registered with flag states that fail to meet their international obligations. There is also an increased risk of falsified registration. Vessels in the shadow trade may fabricate or neglect the appropriate surveys or inspections and lack regulatory certificates required under international conventions. Additionally, crews employed on shadow fleet vessels may face pressure to disregard prudent shipboard practices, including those provided by the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers ("STCW"). These factors (*i.e.*, vessel age; substandard certifications; inadequate safety and maintenance standards performed by substandard flags or unrecognized organizations; imprudence by crew) could increase the likelihood of marine casualties.

- *Insurance and Economic*: Oil spills can create tremendous environmental damage and impose immense economic costs on coastal states. Ships involved in the shadow trade may rely on unproven Protection and Indemnity (P&I) insurance providers that operate in jurisdictions with opaque or limited regulation, and insufficient capital, reinsurance arrangements, and/or technical expertise to handle a major claim in the event of a marine casualty. Accordingly, it is more challenging to hold such vessels accountable for the heavy economic burden generated by environmental damage.

- *Reputational, Logistical, and Financial*: Actors involved in the shadow trade often conceal their ownership structures and the origin of their cargo. The ownership of shadow fleet tankers may be concealed through complex corporate arrangements, with a recent increase of single vessel fleets. These vessels may disable or manipulate AIS systems to conceal illicit activity or other information about their voyages. Such deceptive practices may cause industry stakeholders to unknowingly engage in transactions that are

inconsistent with industry stakeholders' compliance policies, affect industry stakeholders' reputations, and trigger de-risking behavior from counterparties. This de-risking can result in loss of access to reputable service providers, financing, customers, and ports.

- *Legal and Sanctions*: A coalition of over thirty countries have adopted a variety of economic measures in response to Russia's war against Ukraine, including the oil price cap policy implemented by the Price Cap Coalition. Bad actors may use deceptive practices to gain or maintain access to Price Cap Coalition services to transport Russian oil or petroleum products to be sold above the price cap or to engage in activity that may otherwise violate the Coalition's sanctions, laws, or regulations.

RECOMMENDED ACTIONS

The following recommendations are best practices that the Coalition encourages industry stakeholders to adopt, subject to applicable laws and regulations and, as appropriate according to their risk, based on: (i) their role; (ii) the information available to them; and (iii) the types of transactions in which they engage:

Recommendation 1: Require appropriately capitalized P&I insurance. The shadow trade involves ships that may rely on unknown, untested, sporadic, or fraudulent insurance. Without legitimate, continuous insurance coverage, these ships may be unable to pay the costs of accidents in which they are involved, including oil spills, which entail tremendous environmental damage and safety risks and associated costs. The Coalition encourages industry stakeholders to require that vessels have continuous and appropriate maritime insurance coverage for the entirety of their voyages. The Coalition further recommends that industry stakeholders require vessels to be insured by legitimate insurance providers with sufficient coverage for CLC[9] liabilities. If an industry participant is engaging with a ship that is not insured by such a legitimate insurance provider, the industry participant should conduct sufficient due diligence to ensure that the insurer can cover all relevant risks. Such due diligence could include, as feasible, a review of an insurer's financial soundness, track record, regulatory record, and/or ownership structure.

Recommendation 2: Receive classification from an International Association of Classification Societies[10] member society. The information gathered by classification societies is useful in enabling insurers, port states, and other industry stakeholders to make informed decisions about the seaworthiness of vessels. Some ships involved in the shadow trade have shifted away from industry standard classification societies, and instead use societies that are not a part of, or have been removed from, the International Association of Classification Societies. The Coalition encourages[11] industry stakeholders to ensure counterparties receive classification from IACS member classification societies to ensure vessels are fit for the service intended.

Recommendation 3: Best-practice use of Automatic Identification Systems ("AIS"). Consistent with the International Convention for the Safety of Life at Sea ("SOLAS"), industry stakeholders should promote the continuous broadcasting of AIS throughout the lifetime of a voyage. If a ship needs to disable its AIS in response to a legitimate safety concern, the ship should document the circumstances that necessitated disablement. Industry stakeholders should also vigilantly monitor irregular AIS patterns or data that are inconsistent with actual ship locations. By requiring that ships with which they engage use AIS in accordance with the SOLAS, industry stakeholders will improve their understanding of vessels' activities, and reduce their exposure to criminal actors and associated risks.

- *If accessible, complement AIS Tracking with Long-Range Identification and Tracking ("LRIT")*. In instances of AIS outages or suspected AIS manipulation, industry stakeholders such as flagging registries that have access to LRIT should use it to determine the true location of vessels, including, where feasible, those leased to third parties. For those industry stakeholders who have access to LRIT, combining AIS and LRIT is a best practice for mitigating risk.

Recommendation 4: Monitor high-risk ship-to-ship transfers. While ship-to-ship (STS) transfers (the transfer of cargo between ships at sea) are often conducted for legitimate purposes, such transfers can also be used to conceal the origin or destination of cargo in circumvention of sanctions or other regulations. Furthermore, STS transfers of crude oil or petroleum products outside of safe and sheltered waters entail heightened environmental and safety risks. Industry stakeholders should recognize these enhanced risks and, as appropriate to their role, conduct enhanced due diligence in the context of STS transfers, including the notification of STS oil cargo transfers as required by Annex I of the International Convention for the Prevention of Pollution

from Ships ("MARPOL"), especially in areas at higher risk for illicit trading activity or AIS manipulation. It is also recommended that industry stakeholders verify oil record logs to hold accountable record of cargo movements aboard vessels.

Recommendation 5: Request associated shipping and ancillary costs. The inflation of shipping and ancillary costs (*e.g.,* freight, customs, insurance), or the bundling of such costs, are tactics that may be used to conceal that Russian oil was purchased above the price cap. The billing of commercially unreasonable or opaque shipping and ancillary costs should be viewed as a sign of potential price cap evasion. Shipping, freight, customs, and insurance costs are not included in the price caps and must be invoiced separately and at commercially reasonable rates. Industry stakeholders involved in the Russian oil trade that use "Cost, Insurance, Freight" contracts or whose counterparts use such agreements should require an itemized breakdown of all costs to determine the price paid for oil or petroleum products. This may require that industry stakeholders update contractual terms and conditions with sellers or counterparts or adjust invoicing models to show the price of the oil until the port of loading and the price for transportation and other services separately.

Recommendation 6: Undertake appropriate due diligence. Industry stakeholders should carry out appropriate due diligence. Heightened diligence may be appropriate for ships that have undergone numerous administrative changes (*e.g.,* re-flagging). Industry stakeholders may also wish to conduct increased diligence when dealing with intermediary companies (*e.g.*, management companies, traders, brokerages, etc.) that conceal their beneficial ownership or otherwise engage in unusually opaque practices. Such companies may be more likely to engage in deceptive practices and expose counterparties to heightened risks. Industry stakeholders' due diligence should be calibrated according to the specificities of their business and the related risk exposure. Due diligence is especially important where market assessments indicate that Russian oil prices exceed the price cap, and Coalition services are being used or sought.

Recommendation 7: Report ships that trigger concerns. If an industry participant is aware of potentially illicit or unsafe maritime oil trade, including suspected breaches of the oil price cap, they should report this to relevant authorities. By reporting these concerning behaviors, industry stakeholders can collectively help protect the trade from malign activity, while promoting safety and integrity across the market.

##

[1] The price cap is designed to deprive the Russian Federation of the revenue it uses to wage its unjust war against Ukraine, while maintaining reliable supply of crude oil and petroleum products to global markets.

[2] Industry stakeholders include but are not limited to port authorities, other government bodies, ship owners, managers, operators, brokers, ship chandlers, flag registries, port operators, shipping companies, freight forwarders, classification service providers, and insurance and reinsurance companies.

[3]*Guidance to Address Illicit Shipping and Sanctions Evasion Practices*, U.S. Department of Treasury, State, and Coast Guard (May 14, 2020), https://ofac.treasury.gov/recent-actions/20200514

[4]*Maritime Guidance*, Office of Financial Sanctions Implementation (December 2020), https://www.gov.uk/government/publications/financial-sanctions-faqs

[5]*Guidance on Implementation of the Price Cap Policy for Crude Oil and Petroleum Products of Russian Federation Origin; Publication of Russia-related Determinations; Issuance of Russia-related General Licenses*, OFAC (February 3, 2023), https://ofac.treasury.gov/recent-actions/20230203_33

[6]*OFAC Alert: Possible Evasion of the Russian Oil Price Cap* (April 17, 2023), https://ofac.treasury.gov/media/931641/download?inline

[7]*UK Maritime Services Ban and Oil Price Cap Industry Guidance*, Office of Financial Sanctions Implementation (last updated June 2023), https://www.gov.uk/government/publications/russian-oil-services-ban

[8]*Oil Price Cap; Related Provision: Article 3n of Council Regulation 833/2014 Frequently Asked Questions* (last updated August 2023) https://finance.ec.europa.eu/system/files/2023-08/guidance-russian-oil-price-cap_en.pdf

[9] International Convention on Civil Liability for Oil Pollution Damage (CLC) (May 1996), https://www.imo.org/en/About/Conventions/Pages/International-Convention-on-Civil-Liability-for-Oil-Pollution-Damage-(CLC).aspx

[10] The International Association of Classification Societies is the principal consultative technical advisor to the International Maritime Organization (IMO) and classes over 90% of the world's ocean-going tonnage. See *Safer and Cleaner Shipping, IACS (September 2023)*, https://iacs.org.uk/about-us/

[11] For EU member States there is legislation in place requiring to use certain classifications societies as Recognised Organisations that have been approved at EU level (OJ 2022/C 466/07).

https://tass.ru/ekonomika/19000183

13 October, 01:00,
Last Updated October 13, 03:02

Novak said that the discount on Russian oil has decreased threefold since the beginning of the year

© TASS / Ruptly

According to the Deputy Prime Minister of the Russian Federation, it amounted to $11-12 per barrel and may lose up to $5 more

MOSCOW, October 13. /TASS/. Since the beginning of 2023, the discount on Russian oil has more than tripled, to $11-12 per barrel - thanks to the stabilization of supplies and great competition for it in the world market, said Russian Deputy Prime Minister Alexander Novak. According to him, in the future, the discount may decrease within another $5.

"At the beginning of the year, we saw that the discount on our oil reached $35-38 per barrel. As of today, it's about $11-12. This means that supplies have stabilised, transport and logistics chains have stabilised, we have agreed with our friendly countries on new markets and on the participation of companies. Now there is a lot of competition for our products and, of course, the market demand is also forming a reduction in the discount," he said in an interview with RT Arabic.

Novak added that the reduction in the discount indicates a decrease in the risks associated with the supply of Russian oil. "If there is a lot of competition, everyone wants cheap oil and oil products - the demand is high, which means that the discount can decrease. We'll be watching. We are optimistic about it," he said.

"The potential remained small to reduce the discount - $5," the Deputy Prime Minister of the Russian Federation said in an interview with the Business FM radio station. According to him, this depends on the increased cost of oil transportation.

Russia has significantly reduced the share of trade in oil and oil products in dollars and euros, largely switching to rubles, yuan, rupees, etc. "Settlements in dollars and euros also remain, but much lower than before. The most important thing is that we have come up with tools and payment mechanisms that allow us to ensure supplies to those regions where our products are in demand at market prices, which are formed for our energy resources," Novak stressed.

He recalled that the draft budget of the Russian Federation for the next three-year period assumes the price of Urals oil on average for the year at the level of $70 per barrel.

TASS is the media partner of the Russian Energy Week.

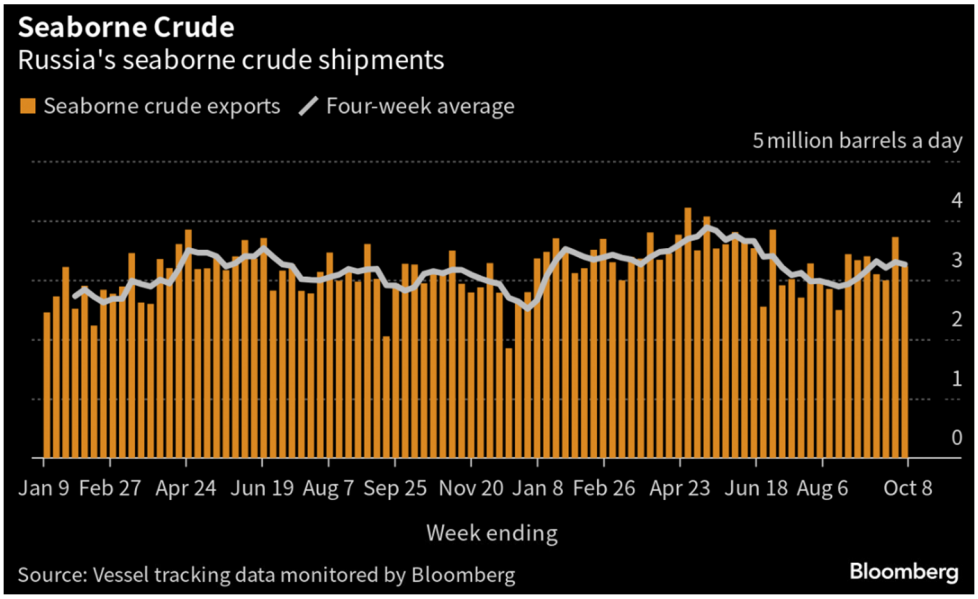
Tags:

Novak, Aleksandr ValentinovichRussiaRussian Energy Week

Russia’s Crude Shipments Stick to Cut Even as Price Cap Crumbles
2023-10-10 10:45:11.919 GMT

By Julian Lee
(Bloomberg) -- Russia’s seaborne crude exports slipped back from a 13-week high in the seven days to Oct. 8, keeping four-week average flows in line with the export cut that Moscow pledged to maintain until the end of the year.
About 3.23 million barrels a day of crude was shipped from Russian ports last week, a decline of about 490,000 barrels a day from the previous seven days, tanker-tracking data monitored by Bloomberg show. That reduced the less volatile four-week average to about 3.26 million barrels a day.

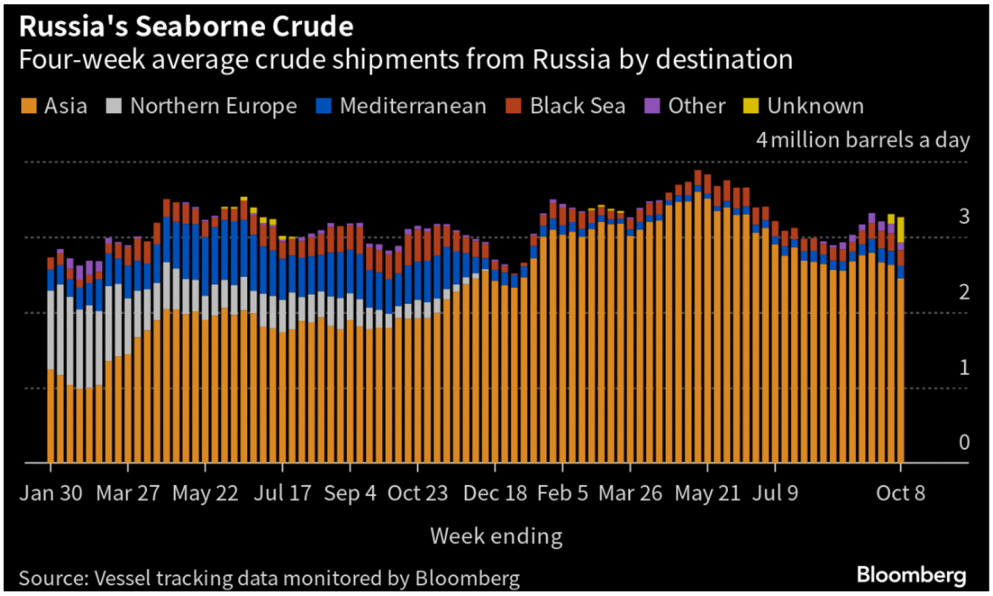
The drop came after record-equaling shipments from the Arctic port of Murmansk in the previous week were not sustained. Deputy Prime Minister Alexander Novak said in early August that Moscow would prolong export restrictions at a reduced level of 300,000 barrels a day below their May-June average until the end of the year. Bloomberg calculations indicate that shipments through ports should be running now at about 3.28 million barrels a day.
The dip in volumes dragged down the Kremlin’s weekly revenues from oil export duties, but the four-week average rose for a 10th straight week, setting a new high for the period since mid-January. Russia’s rising oil income has called into question the price cap imposed on its exports by the Group of Seven nations and European Union. One of the original architects of the plan suggested those countries need to crack down on Russia’s evasion of the limit and raise the price cap level, making it a painful but tolerable prospect for Moscow.



Russia has lifted its ban on overseas shipments of gasoline and diesel, introduced to tame surging pump prices at home. The measure has been replaced by punitive export tariffs imposed on so-called gray exporters of a wide range of petroleum products —

companies that do not produce their own fuel but buy volumes domestically and re-sell abroad. Shipments resumed from the Baltic port of Primorsk over the weekend.
Russia's oil refiners reduced daily processing rates in the first days of October to the lowest in 19 weeks as seasonal maintenance reaches its peak. That's down by about 460,000 barrels a day, or 8%, from the high seen in July.

Flows by Destination
Russia's seaborne crude flows edged lower in the period to Oct. 8 on a four-week average basis to 3.26 million barrels a day, down from 3.3 million barrels a day in the period to Oct. 1. Shipments remain about 580,000 barrels a day below the highs seen between April and June.



All figures exclude cargoes identified as Kazakhstan's KEBCO grade. Those are shipments made by KazTransoil JSC that transit Russia for export through Novorossiysk and the Baltic port of Ust-Luga.
The Kazakh barrels are blended with crude of Russian origin to create a uniform export grade. Since Russia's invasion of Ukraine, Kazakhstan has rebranded its cargoes to distinguish them from those shipped by Russian companies. Transit crude is specifically exempted from European Union sanctions.

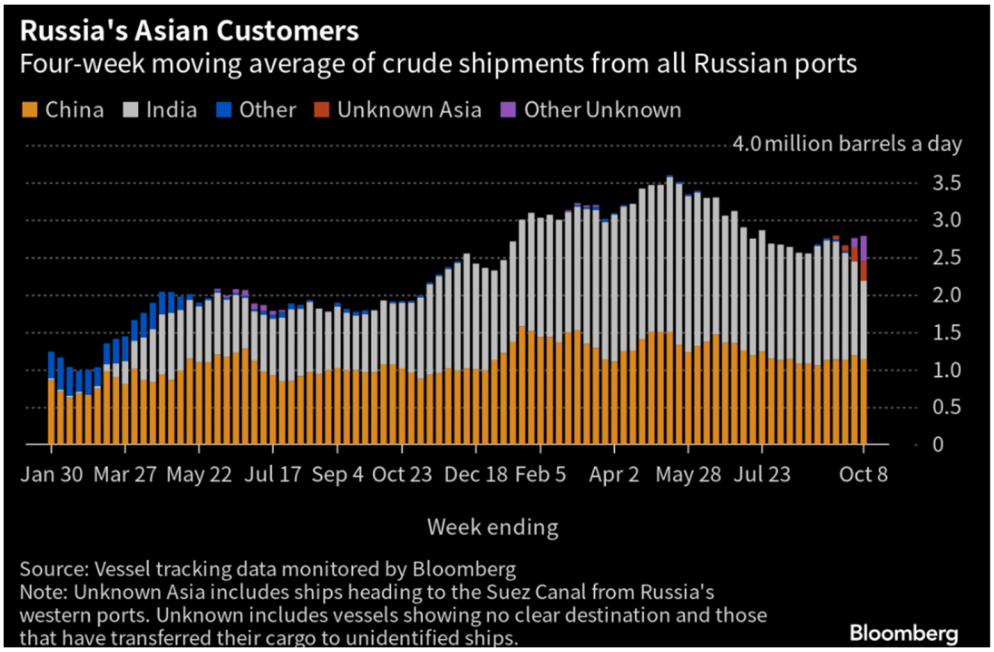
*** Asia**

Observed shipments to Russia's Asian customers, including those showing no final destination, edged higher to 2.79 million barrels a day in the four weeks to Oct. 8, from 2.76 million barrels a day in the period to Oct. 1. That's still well below a peak of about 3.6 million barrels a day seen in the four weeks to May 14.
Even if all of the cargoes on ships without an initial

destination eventually end up in India, shipments to the country will still be about 440,000 barrels a day, or 25%, down from their peak in May. Adding the “Unknown Asia” and “Other Unknown” volumes to the total for India gives a figure of 1.64 million barrels a day in the four weeks to Oct. 8. That’s the most in three months, but down from a high of 2.15 million barrels a day in the period to May 21.

The equivalent of 261,000 barrels a day was on vessels signaling Port Said or Suez in Egypt, or which are expected to be transferred from one ship to another off the South Korean port of Yeosu. Those voyages typically end at ports in India or China and show up in the chart below as “Unknown Asia” until a final destination becomes apparent.

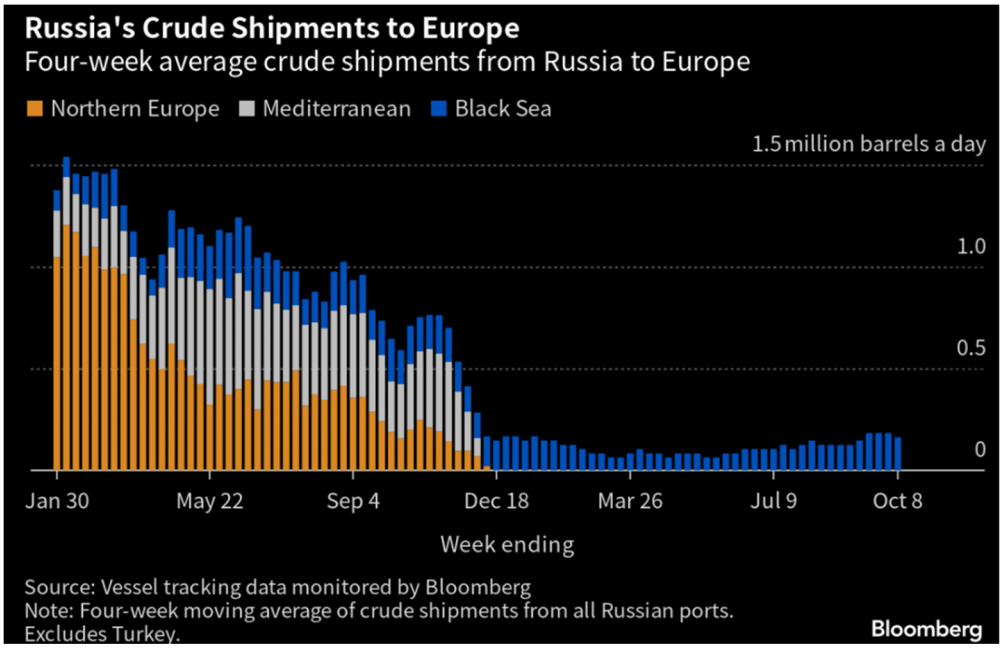
The “Other Unknown” volumes, running at 336,000 barrels a day in the four weeks to Oct. 8, are those on tankers showing no clear destination. Most of those cargoes originate from Russia’s western ports and go on to transit the Suez Canal, but some could end up in Turkey. Others could be moved from one vessel to another, with most such transfers now taking place in the Mediterranean.



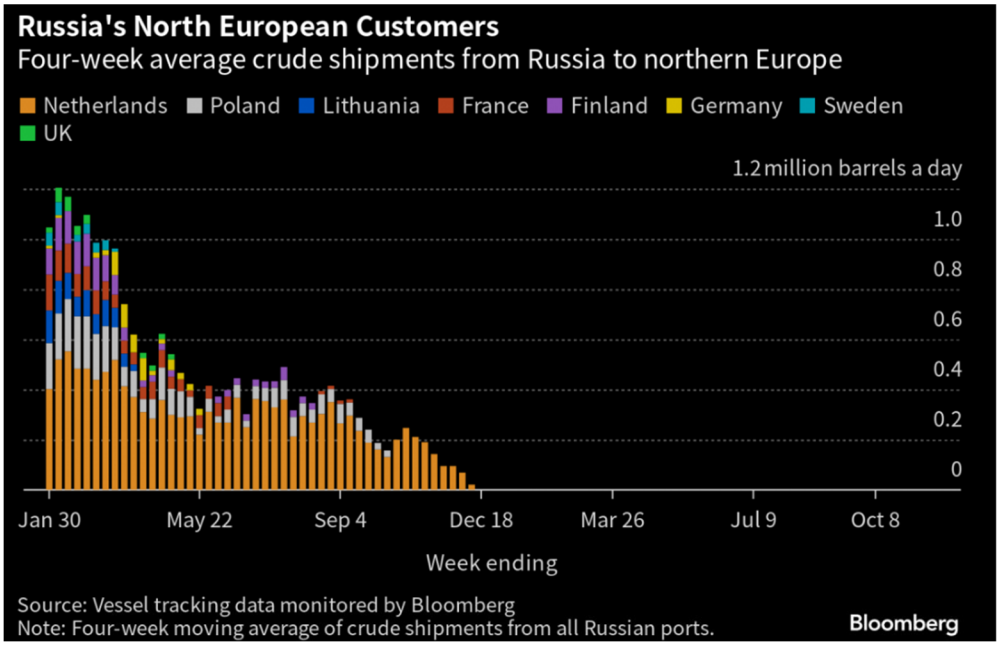
*** Europe**

Russia’s seaborne crude exports to European countries edged lower to about 160,000 barrels a day in the 28 days to Oct. 8, with Bulgaria the sole destination. These figures do not include shipments to Turkey.

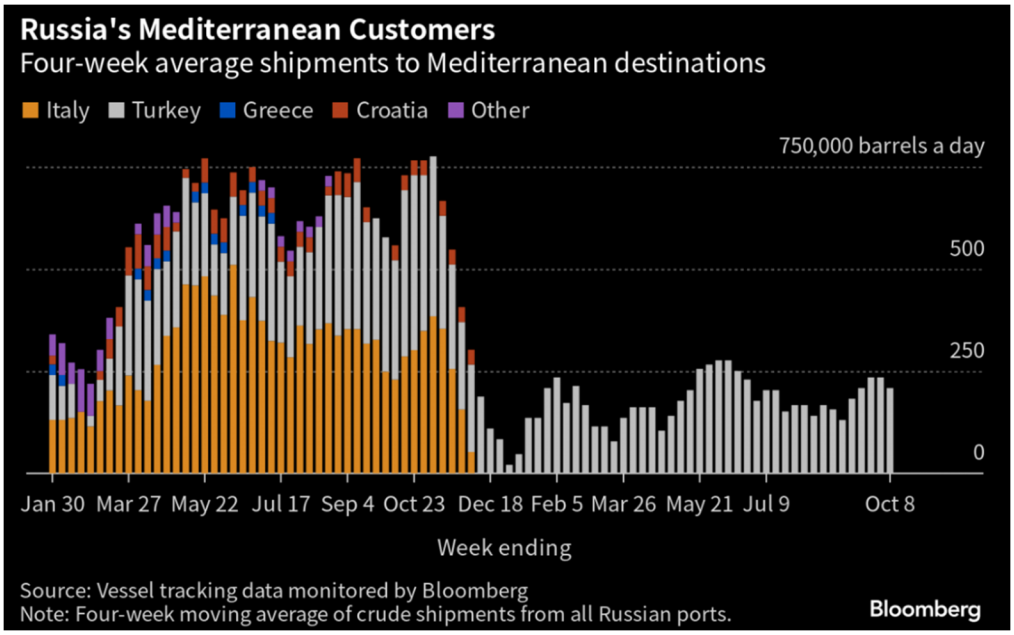
A market that consumed about 1.5 million barrels a day of short-haul seaborne crude, coming from export terminals in the Baltic, Black Sea and Arctic has been lost almost completely, to be replaced by long-haul destinations in Asia that are much more costly and time-consuming to serve.



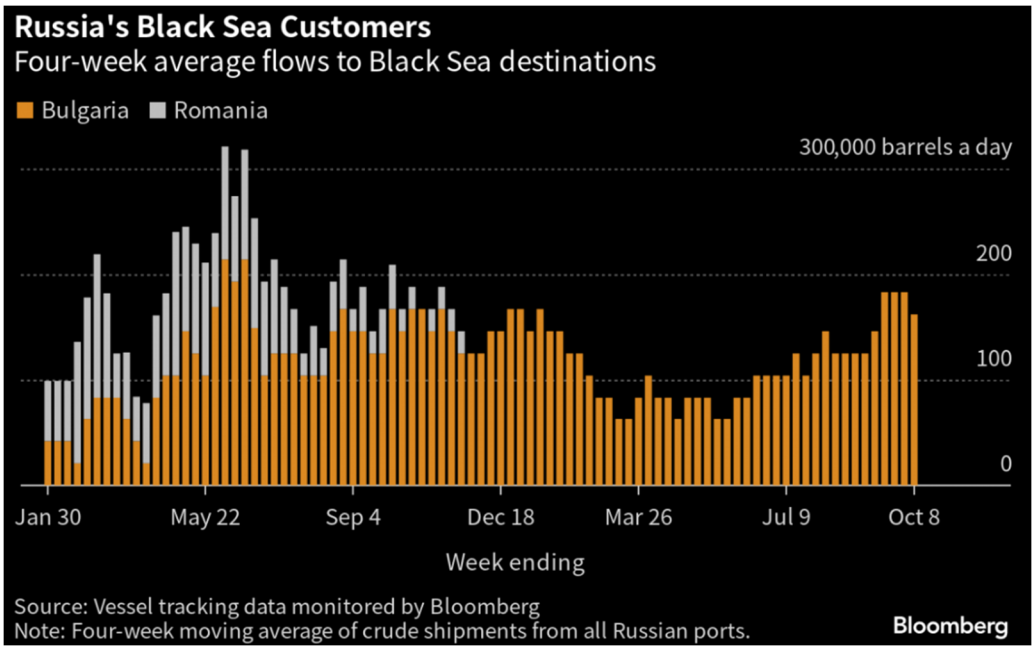
No Russian crude was shipped to northern European countries in the four weeks to Oct. 8.



Exports to Turkey, Russia's only remaining Mediterranean customer, slipped to about 210,000 barrels a day in the four weeks to Oct. 8. Flows had topped 425,000 barrels a day in October, before falling sharply after a Group of Seven price cap came into effect in early December.



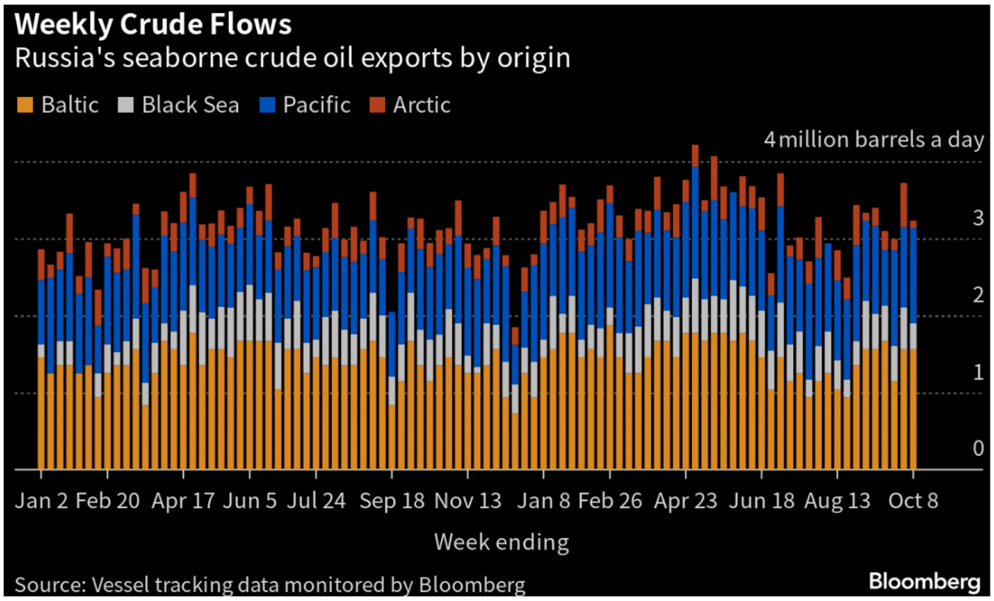
Flows to Bulgaria, now Russia's only Black Sea market for crude, edged down to about 160,000 barrels a day, dropping from the highest levels seen since June 2022. High levels of imports in recent weeks have come despite lawmakers recently approving a motion to end Bulgaria's dependence on Russian crude sooner than permitted under a European Union import ban.



Flows by Export Location

Aggregate flows of Russian crude fell back from the previous week's three-month high to 3.23 million barrels a day in the seven days to Oct. 8. The drop of 490,000 barrels a day was the biggest since July and was driven by the scheduling of shipments from storage facilities at Murmansk.

Figures exclude volumes from Ust-Luga and Novorossiysk identified as Kazakhstan's KEBCO grade.

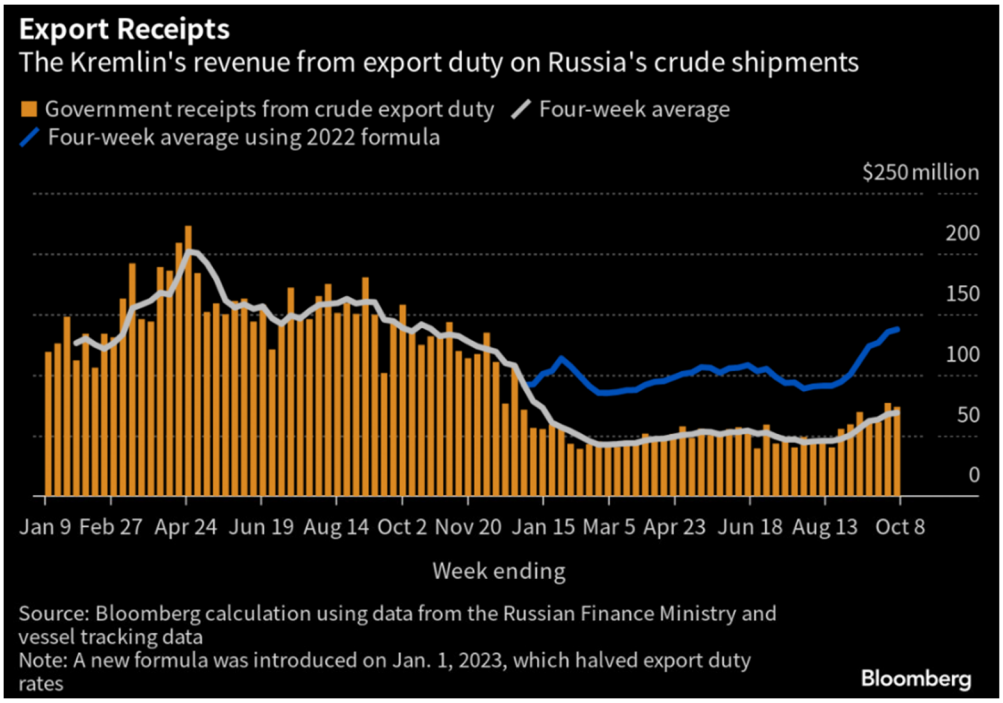


Vessel-tracking data are cross-checked against port agent reports as well as flows and ship movements reported by other information providers including Kpler and Vortexa Ltd.

Export Revenue

Inflows to the Kremlin's war chest from its crude-export duty slipped to $74 million in the seven days to Oct. 8, while four-week average income edged up to $69 million. The four-week average set a new high for the period since mid-January. Rising oil prices and the rebound in flows are both contributing to the increase in receipts.

Russia's government calculates oil taxes — including export duty — using a discount to global benchmark Brent, which sets the floor price for the nation's crude for budget purposes. If Russian oil trades above that threshold, the Finance Ministry uses the market price for tax calculations, as has been the case in recent months. The discount used to calculate taxes including export duty is set at $20 a barrel for September and subsequent months.



The duty rate for October has been set at $3.26 a barrel, based on an average Urals price of $77.03 during the calculation period between Aug. 15 and Sept. 14. That was $11.60 a barrel below Brent over the same period. October's duty rate sets a new high for the year.

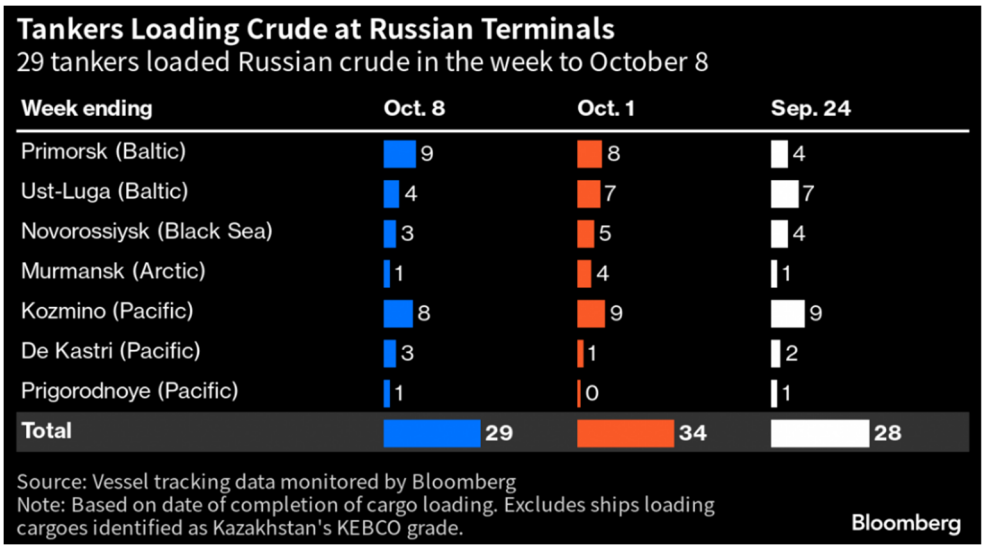
Origin-to-Location Flows

The following charts show the number of ships leaving each export terminal and the destinations of crude cargoes from the four export regions.

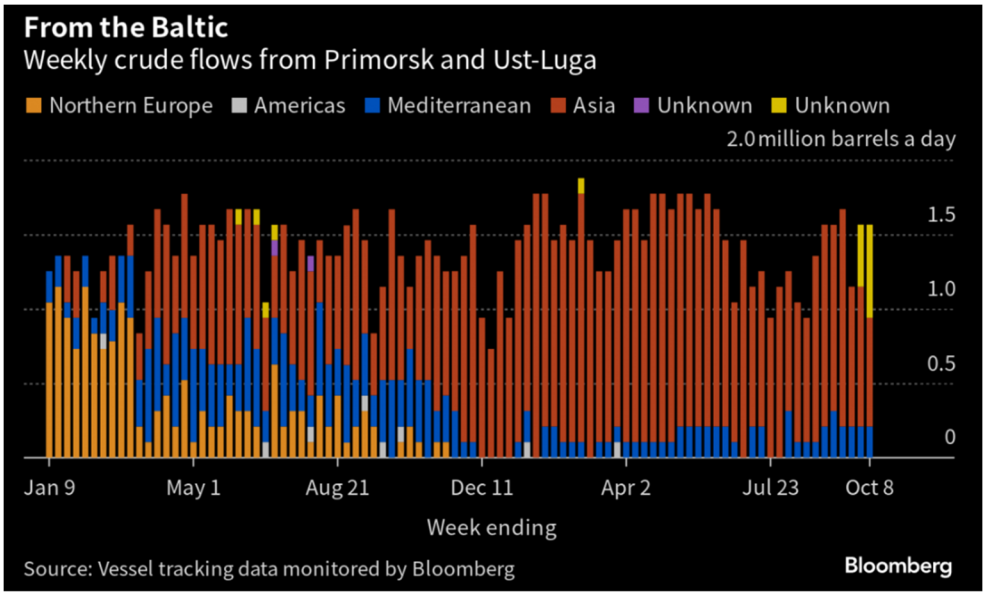
A total of 29 tankers loaded 22.6 million barrels of Russian crude in the week to Oct. 8, vessel-tracking data and port agent reports show. That's down 3.4 million barrels from the previous week.

A rebound in shipments from the Pacific port of De Kastri was more than offset by declines in flows from the Black Sea and the Arctic.

Destinations are based on where vessels signal they are heading at the time of writing, and some will almost certainly change as voyages progress. All figures exclude cargoes identified as Kazakhstan's KEBCO grade.

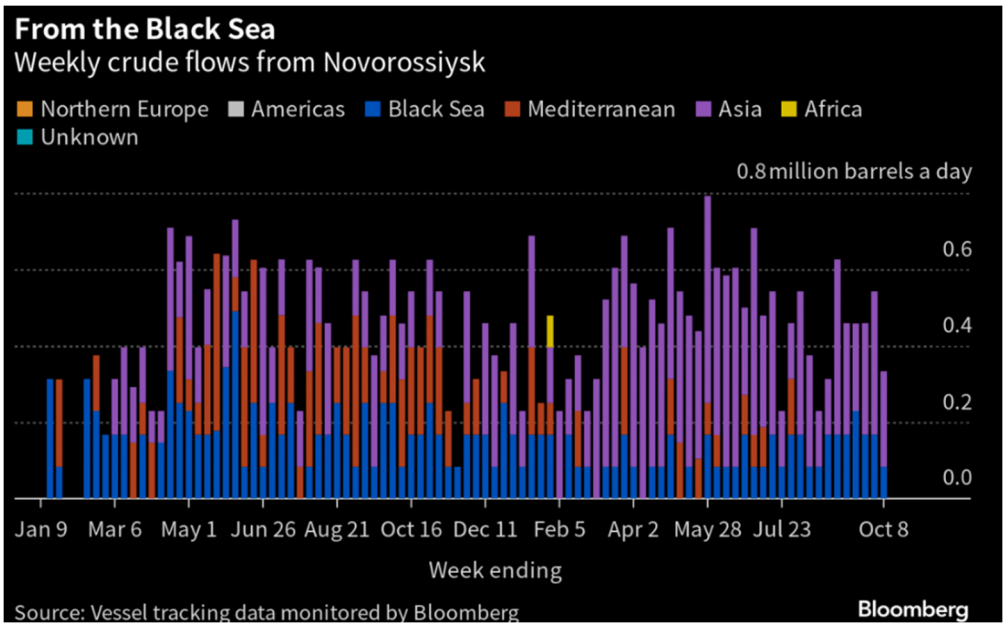


The total volume on ships loading Russian crude from the Baltic terminals was unchanged at 1.56 million barrels a day.

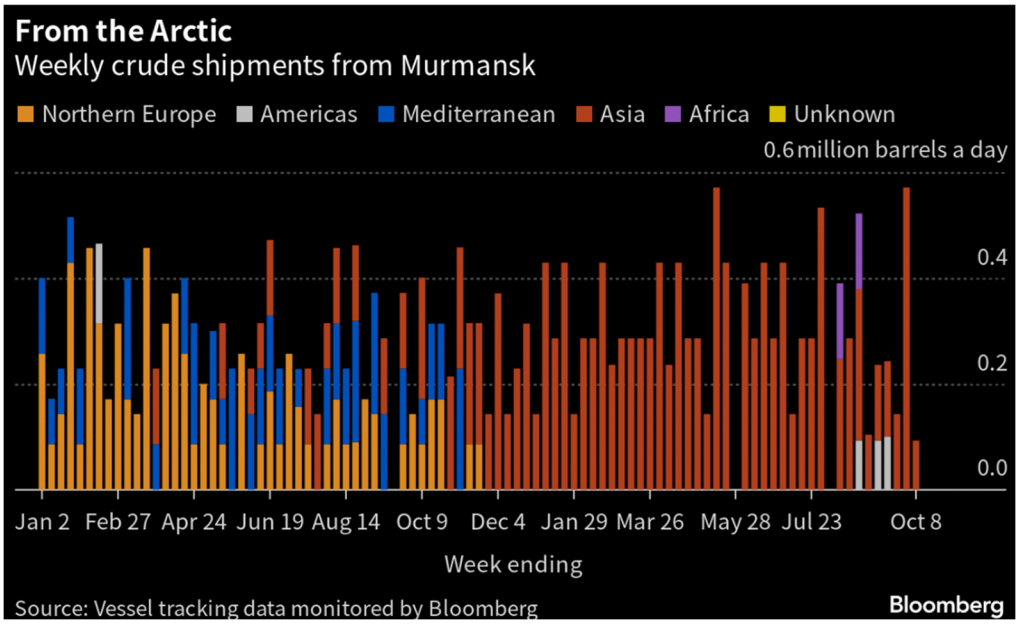


Shipments of Russian crude from Novorossiysk fell to a six-week low of about 330,000 barrels a day.

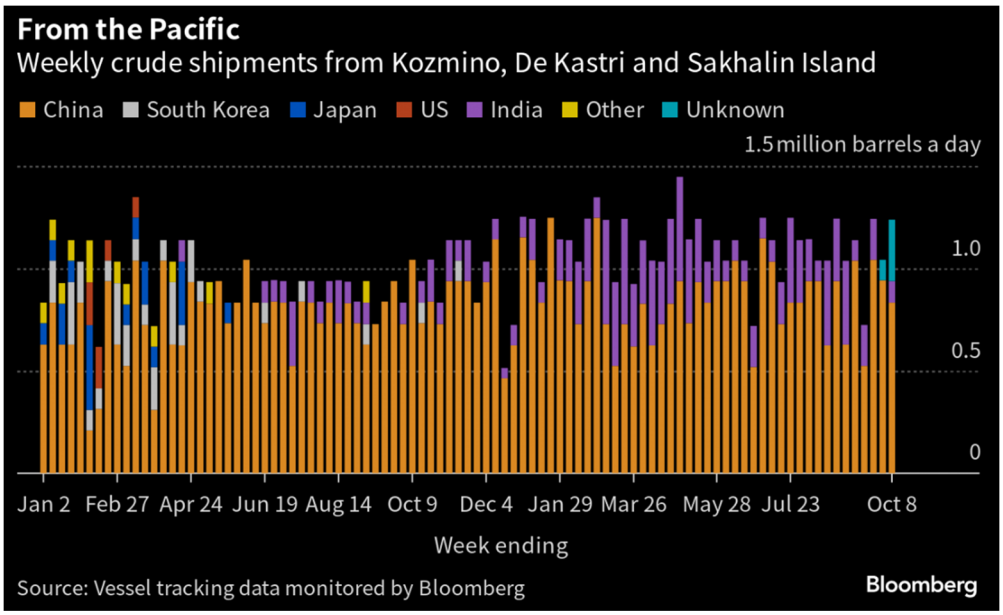
One cargo of Kazakh crude was loaded at the port during the week, up from none during the previous seven days.



One Aframax tanker completed loading cargoes at the Arctic port of Murmansk in the week to Oct. 8, cutting flows from their record-equaling levels during the previous seven days.
One tanker was entering Murmansk Fjord and two others were drifting outside the port waiting to load at the end of the week.



Twelve tankers loaded at Russia's three Pacific export terminals, up by two from the previous week. The volume of crude shipped from the region recovered the loss seen the previous week.
The increase in flows was driven by a rebound in shipments of the Sokol grade from the terminal at De Kastri and one tanker completing loading of Sakhalin Blend crude. Shipments from the Sakhalin Island terminal are running at one every other week.



The volumes heading to unknown destinations are Sokol cargoes that are currently being shuttled to an area off the South Korean port of Yosu from the loading terminal at De Kastri. Most of these are ending up in India.NOTES

Note: This story forms part of a weekly series tracking shipments of crude from Russian export terminals and the export duty revenues earned from them by the Russian government. Weeks run from Monday to Sunday. The next update will be onTuesday, Oct. 17.

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

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

--With assistance from Sherry Su.

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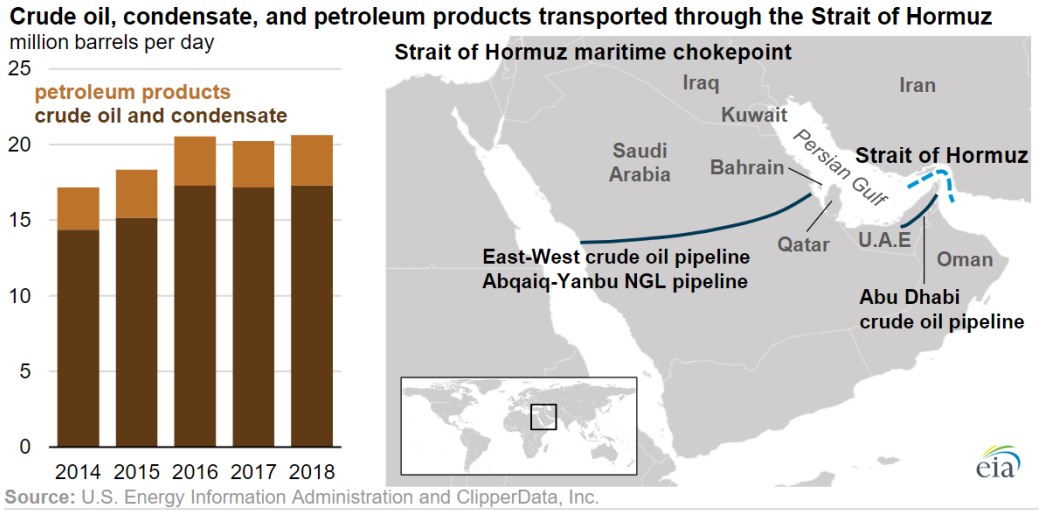
JUNE 20, 2019

The Strait of Hormuz is the world's most important oil transit chokepoint



Source: U.S. Energy Information Administration and ClipperData, Inc.

Source: U.S. Energy Information Administration and ClipperData, Inc.

The Strait of Hormuz, located between Oman and Iran, connects the Persian Gulf with the Gulf of Oman and the Arabian Sea. The Strait of Hormuz is the world's most important oil chokepoint because of the large volumes of oil that flow through the strait. In 2018, its daily oil flow averaged 21 million barrels per day (b/d), or the equivalent of about 21% of global petroleum liquids consumption. Chokepoints are narrow channels along widely used global sea routes that are critical to global energy security. The inability of oil to transit a major chokepoint, even temporarily, can lead to substantial supply delays and higher shipping costs, resulting in higher world energy prices. Although most chokepoints can be circumvented by using other routes that add significantly to transit time, some chokepoints have no practical alternatives.

Volumes of crude oil, condensate, and petroleum products transiting the Strait of Hormuz have been fairly stable since 2016, when international sanctions on Iran were lifted and Iran's oil production and exports returned to pre-sanctions levels. Flows through the Strait of Hormuz in 2018 made up about one-third of total global seaborne traded oil. More than one-quarter of global liquefied natural gas trade also transited the Strait of Hormuz in 2018.

Crude oil, condensate, and petroleum products transported through the Strait of Hormuz

million barrels per day

	2014	2015	2016	2017	2018
Total oil flows through Strait of Hormuz	**17.2**	**18.4**	**20.6**	**20.3**	**20.7**
Crude and condensate	14.4	15.2	17.3	17.2	17.3
Petroleum products	2.8	3.2	3.3	3.1	3.3
World maritime oil trade	**56.4**	**58.9**	**61.2**	**62.5**	**N/A**
World total petroleum and other liquids consumption	**93.9**	**95.9**	**96.9**	**98.5**	**99.9**
LNG flows through Strait of Hormuz (Tcf per year)	**4.0**	**4.2**	**4.2**	**4.1**	**4.1**

Source: U.S. Energy Information Administration, based on *Short-Term Energy Outlook* (June 2019), ClipperData, Saudi Aramco bond prospectus, Saudi Aramco annual reports, Saudi Ports Authority, International Group of Liquefied Natural Gas Importers, and U.N. Conference on Trade and Development
Note: LNG is liquefied natural gas; Tcf is trillion cubic feet

There are limited options to bypass the Strait of Hormuz. Only Saudi Arabia and the United Arab Emirates have pipelines that can ship crude oil outside the Persian Gulf and have the additional pipeline capacity to circumvent the Strait of Hormuz. At the end of 2018, the

total available crude oil pipeline capacity from the two countries combined was estimated at 6.5 million b/d. In that year, 2.7 million b/d of crude oil moved through the pipelines, leaving about 3.8 million b/d of unused capacity that could have bypassed the strait.

Operating pipelines that bypass the Strait of Hormuz, 2018

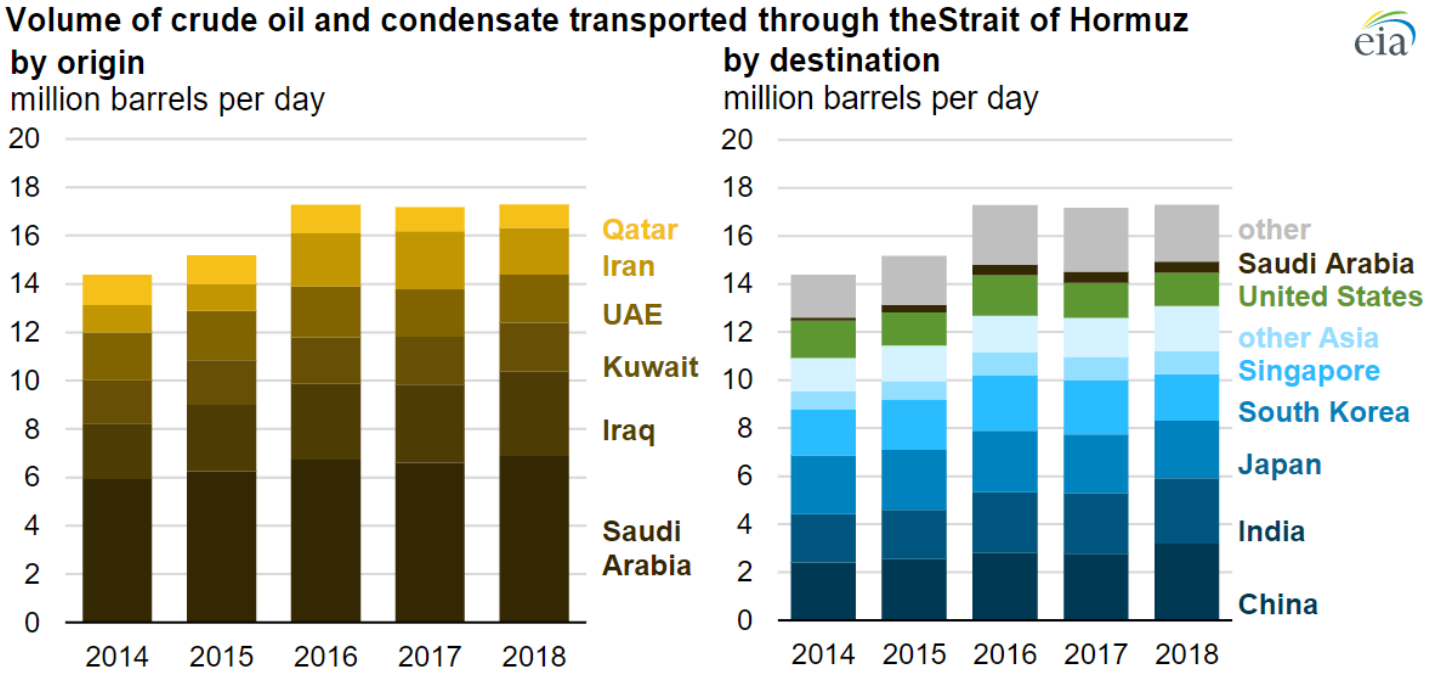
million barrels per day

Pipeline name	Country	Capacity	Throughput	Unused capacity
Petroline (East-West Pipeline)	Saudi Arabia	5.0	2.1	2.9
Abu Dhabi Crude Oil Pipeline	United Arab Emirates	1.5	0.6	0.9
Abqaiq-Yanbu Natural Gas Liquids Pipeline	Saudi Arabia	0.3	0.3	0.0
TOTAL		**6.8**	**3.0**	**3.8**

Source: U.S. Energy Information Administration, based on ClipperData, Saudi Aramco bond prospectus (April 2019)
Note: Unused capacity is defined as pipeline capacity that is not currently used but can be readily available.

Based on tanker tracking data published by ClipperData, Saudi Arabia moves the most crude oil and condensate through the Strait of Hormuz, most of which is exported to other countries (less than 0.5 million b/d transited the strait in 2018 from Saudi ports in the Persian Gulf to Saudi ports in the Red Sea).

EIA estimates that 76% of the crude oil and condensate that moved through the Strait of Hormuz went to Asian markets in 2018. China, India, Japan, South Korea, and Singapore were the largest destinations for crude oil moving through the Strait of Hormuz to Asia, accounting for 65% of all Hormuz crude oil and condensate flows in 2018.



Source: U.S. Energy Information Administration, based on tanker tracking data published by ClipperData, Inc.

In 2018, the United States imported about 1.4 million b/d of crude oil and condensate from Persian Gulf countries through the Strait of Hormuz, accounting for about 18% of total U.S. crude oil and condensate imports and 7% of total U.S. petroleum liquids consumption.

Principal contributor: Justine Barden

Tags: liquid fuels, crude oil, oil/petroleum, map

Oil Market Highlights

Crude Oil Price Movements

In September, the OPEC Reference Basket (ORB) rose by $7.27, or 8.3%, m-o-m to average $94.60/b. The ICE Brent front-month contract increased by $7.48, or 8.8%, m-o-m to $92.59/b, and the NYMEX WTI front-month contract rose by $8.11, or 10.0%, m-o-m to average $89.43/b. The DME Oman front-month contract rose by $6.90, or 8.0%, m-o-m to settle at $93.37/b. The front-month ICE Brent/NYMEX WTI spread narrowed in September by 63¢ to average $3.16/b. The market structure strengthened and the front end of the futures forward curves for ICE Brent, NYMEX WTI and DME Oman steepened amid improving sentiment about the short-term market outlook. Hedge funds and other money managers raised their total net long positions in ICE Brent and NYMEX WTI last month anticipating a rally in oil futures.

World Economy

The forecast for world economic growth in 2023 is revised up slightly to 2.8% but remains unchanged for 2024 at 2.6%. US economic growth in 2023 is revised up to 2%, but remains at 0.7% for 2024. Eurozone economic growth is revised down in both 2023 and 2024 to stand at 0.5% and 0.7%, respectively. Japan's economic growth forecast for 2023 is revised up to 1.7%, while growth in 2024 remains at 1.0%. The forecast for China remains unchanged at 5.2% and 4.8% for 2023 and 2024, respectively. India's growth forecast for 2023 is revised up to 6.2%, while growth for 2024 remains at 5.9%. Brazil's forecast is revised up to 2.5% in 2023, while growth for 2024 remains at 1.2%. Russia's economic growth forecast for 2023 is revised up to 1.5%, while the growth forecast for 2024 remains at 1.0%.

World Oil Demand

The world oil demand growth forecast for 2023 remains unchanged at 2.4 mb/d. Downward revisions in the OECD are due to actual data for the first three quarters, while upward revisions in non-OECD in the 2Q23 and 3Q23 are due to higher-than-expected growth, mainly from China. In the OECD, oil demand in 2023 is expected to rise by around 0.1 mb/d, while oil demand in non-OECD is expected to increase slightly to above 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 in 2024, with OECD Americas contributing the largest increase. The non-OECD is set to drive next year's growth, increasing by about 2.0 mb/d, with China, India, the Middle East, and Other Asia contributing the most.

World Oil Supply

Non-OPEC liquids supply growth forecast for 2023 is revised up to 1.7 mb/d. Main drivers of liquids supply growth for 2023 include the US, Brazil, Norway, Kazakhstan, Guyana and China. For 2024, non-OPEC liquids supply 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 5.4 mb/d and by another 65 tb/d to average 5.5 mb/d in 2024. OPEC-13 crude oil production in September increased by 273 tb/d m-o-m to an average 27.75 mb/d, according to available secondary sources.

Product Markets and Refining Operations

In September, refinery margins came under pressure and showed a counter-seasonal drop following multi-month highs seen in the previous month. Stronger crude prices weighed on product crack spreads nearly all across the barrel despite lower product output due to the start of a heavy turnaround season. Over the month, the seasonal decline in gasoline demand – and subsequent gasoline stock builds – led to a drop in prices for that product in the US Gulf Coast and Rotterdam, while all other product prices showed a rise. In Singapore, fuel oil was the only product to show a price decline affected by ample supplies in the region. Global refinery intake fell by 1.4 mb/d m-o-m in September to average 81.1 mb/d.

Tanker Market

Dirty freight rates showed mixed movement in September. Despite some strength in the second half of the month, VLCCs spot freight rates continued the decline in September, down from peaks seen earlier in June. Rates on the Middle East-to-West route led losses, falling 13%. Suezmax and Aframax spot freight rates showed a mixed performance. Suezmax rates on the US Gulf Coast-to-Europe route declined 15%, while rates on the West Africa-to-US Gulf Coast route rose 5% amid a pickup in tanker demand. In the Aframax market, rates on the Caribbean-to-US East Coast route experienced a strong seasonal decline of 22%, while rates on the Mediterranean-to-Northwest Europe route rose 8%, supported by temporary tightness in the market mid-month. In contrast, clean spot freight rates on average saw an improvement. Rates rose around the Mediterranean, as available tonnage remained tight, as well as in the Far East amid a pickup in activity in the regional product market.

Crude and Refined Products Trade

Preliminary data shows US crude imports remained at strong levels in September, averaging 6.9 mb/d, the highest since August 2019. US crude exports also increased slightly to average 4.3 mb/d, representing a six-month high. China's crude imports surged in August, averaging 12.5 mb/d, the third highest on record. Product exports from China rose further to reach a five-month high, supported by a new round of product export quotas. India's crude imports continued to decline to a 10-month low of 4.4 mb/d in August, as the monsoon season weighed on domestic demand. India's product exports reached a five-month high, driven by outflows of fuel oil, jet fuel and other products. Japan's crude imports recovered further in August, averaging 2.5 mb/d, an increase of almost 7% m-o-m. Japan's product exports rose with gains driven by gasoline and kerosene. Preliminary estimates show OECD Europe crude imports reaching a peak in July before slipping seasonally over the subsequent two months.

Commercial Stock Movements

Preliminary August 2023 data sees total OECD commercial oil stocks down by 11.0 mb m-o-m. At 2,803 mb, they were 182 mb lower than the 2015–2019 average. Within the components, crude stocks fell by 26.0 mb m-o-m, while products stocks rose by 15.0 mb m-o-m. OECD commercial crude stocks stood at 1,348 mb in August, which is 99 mb lower than the 2015–2019 average. By contrast, total product inventories rose by 15.0 mb in August to 1,455 mb, which is 83 mb below the 2015–2019 average. In terms of days of forward cover, OECD commercial stocks rose by 0.2 days m-o-m in August to stand at 61.1 days, which is 2.0 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 29.1 mb/d, which is 0.7 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 29.9 mb/d, 0.8 mb/d higher than the estimated level in 2023.

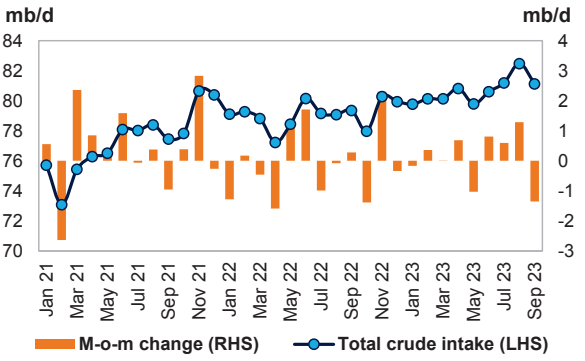
Feature Article

Winter oil market outlook

The global refinery intake level declined from the post-pandemic record high of 82.5 mb/d registered in August 2023 to average 81.1 mb/d in September 2023 (***Graph 1***). Despite the monthly decline, global crude intake increased by 1.8 mb/d y-o-y, in September 2023 owing to strong product demand, particularly in jet/kerosene markets, driven by increased air and road travel activities.

Until September, global refinery processing rates had remained elevated as strong refinery margins and robust transport fuel consumption strengthened product requirements and markets. However, in September, global refinery intake declined due to an increase in offline capacity, driven by intensified maintenance work, especially in the Atlantic Basin. Offline capacity reached 7.8 mb/d, up from 6.0 mb/d in the previous month. Additional downside risks are linked to weakening gasoline requirements as the summer driving season comes to an end. This counter-seasonal decline in global refining margins in September has likely added to the pressure on refinery intakes. Moreover, the reduction in product output mentioned earlier could potentially result in higher product prices in the short term.

Graph 1: Global refinery intake



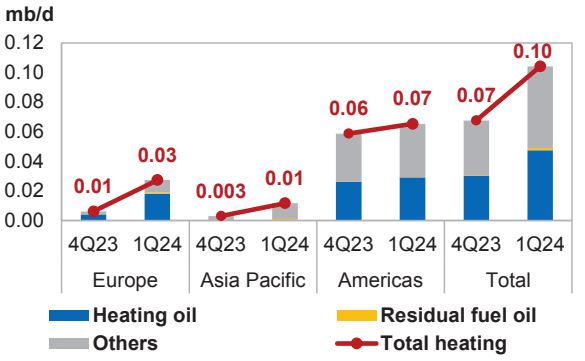
Source: OPEC.

In the US, diesel inventories currently stand below those typical for this time of the year. This divergence from previous patterns suggests that diesel availability in the US is likely to continue diminishing ahead of the winter season. In Europe, a diesel and gasoline export ban was imposed by Russia on 21 September, which was later amended to partially lift the diesel export ban, in order to avert domestic shortages and stabilize domestic fuel prices. This restriction weighed on diesel availability in the region. Meanwhile, Asian refiners are expected to keep refinery runs elevated and increase product exports in the coming month, amid potential improvements in East-West product pricing signals. This presents a favourable opportunity for Chinese refiners to exhaust their product export quotas on stronger refining margins ahead of the release of the next batch of quotas.

In 4Q23, global transportation fuel demand is expected to see some decline, consistent with seasonality and historical trends. The commencement of extensive refinery maintenance is likely to constrain refinery throughputs, consequently exerting pressure on oil markets until refinery operations begin to recover, typically around November. However, the net effect of impending product supply dislocations and tightening product availability might support for crude markets toward the end of the year.

Looking ahead to the coming winter season, the seasonal increase in heating oil demand is expected, driven by rising requirements in the Northern Hemisphere. Overall, OECD Europe, OECD Americas, and OECD Asia Pacific, are poised to experience growth in demand for fuel oil and distillates required for heating in 4Q23 (***Graph 2***). Accordingly, total heating fuel demand is forecast to grow by 70 tb/d y-o-y in 4Q23. In OECD Europe and the US, heating oil will drive demand, while in OECD Asia Pacific, “other fuels” – primarily consisting of diesel and LPG – will drive demand in 4Q23. OECD Americas will see the largest increase in demand by 60 tb/d, OECD Europe by around 10 tb/d y-o-y, and Asia Pacific will remain almost unchanged y-o-y. In 1Q24, heating fuel demand in the OECD region is expected to see 100 tb/d y-o-y growth, mostly from the Americas and Europe, with a marginal increase in the Asia Pacific.

Graph 2: Heating fuel demand in OECD, y-o-y change



Note: 4Q23-1Q24 = Forecast. Source: OPEC.

Looking ahead and despite the usual seasonal rise in heating oil demand, ongoing uncertainty and economic developments in OECD Europe and other areas are expected to impact oil demand in the remainder of 2023 and in 2024. Consequently, OPEC and non-OPEC nations participating in the Declaration of Cooperation (DoC) will continue to closely monitor market developments and address challenges in a proactive, pre-emptive and precautious manner, in order to secure a sustainable and stable market.

World Oil Demand

For 2023, world oil demand growth remains at 2.4 mb/d, unchanged from last month's assessment, to average 102.1 mb/d. Some downward adjustments were made to the estimates for OECD Americas, Other Asia and Africa in 1Q23 based on actual August data. This was offset by some upward revisions to 3Q23 data, mainly in China.

In the OECD region, oil demand in 2023 is expected to rise by 89 tb/d to average 45.8 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 56.3 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 46.1 mb/d. US oil demand is forecast to exceed pre-pandemic levels at 20.4 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 58.2 mb/d. China and the Middle East are expected to see the largest growth. Other regions, particularly Other Asia and India, 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	24.84	24.52	25.15	25.32	24.87	24.97	0.13	0.52
of which US	*20.16*	*19.92*	*20.45*	*20.47*	*20.05*	*20.22*	*0.06*	*0.31*
Europe	13.51	13.11	13.48	13.85	13.37	13.45	-0.05	-0.40
Asia Pacific	7.38	7.81	6.96	7.16	7.65	7.39	0.01	0.18
Total OECD	**45.72**	**45.44**	**45.59**	**46.33**	**45.89**	**45.81**	**0.09**	**0.20**
China	14.95	15.73	16.06	16.07	16.21	16.02	1.07	7.14
India	5.14	5.40	5.40	5.21	5.50	5.38	0.24	4.69
Other Asia	9.06	9.34	9.48	9.03	9.18	9.26	0.19	2.13
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	4.59	4.24	4.43	4.88	4.54	0.13	3.06
Russia	3.70	3.83	3.59	3.74	4.01	3.79	0.09	2.40
Other Eurasia	1.15	1.24	1.21	1.02	1.23	1.17	0.02	2.03
Other Europe	0.77	0.79	0.77	0.75	0.83	0.79	0.02	2.29
Total Non-OECD	**53.90**	**56.15**	**55.76**	**55.85**	**57.24**	**56.25**	**2.35**	**4.35**
Total World	**99.63**	**101.59**	**101.35**	**102.17**	**103.13**	**102.06**	**2.44**	**2.45**
Previous Estimate	99.62	101.74	101.26	102.06	103.18	102.06	2.44	2.45
Revision	0.00	-0.15	0.09	0.12	-0.05	0.00	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	24.97	24.71	25.33	25.52	25.03	25.15	0.18	0.72
of which US	*20.22*	*20.06*	*20.59*	*20.62*	*20.19*	*20.37*	*0.14*	*0.70*
Europe	13.45	13.17	13.53	13.92	13.41	13.51	0.06	0.41
Asia Pacific	7.39	7.84	6.98	7.19	7.65	7.41	0.02	0.29
Total OECD	**45.81**	**45.71**	**45.84**	**46.64**	**46.09**	**46.07**	**0.26**	**0.56**
China	16.02	16.30	16.52	16.69	16.88	16.60	0.58	3.62
India	5.38	5.63	5.64	5.44	5.69	5.60	0.22	4.09
Other Asia	9.26	9.60	9.73	9.39	9.54	9.57	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	4.54	4.70	4.42	4.60	5.01	4.69	0.15	3.31
Russia	3.79	3.89	3.70	3.89	4.08	3.89	0.10	2.65
Other Eurasia	1.17	1.27	1.24	1.08	1.28	1.22	0.04	3.77
Other Europe	0.79	0.81	0.78	0.77	0.84	0.80	0.01	1.75
Total Non-OECD	**56.25**	**57.90**	**57.68**	**58.22**	**59.14**	**58.24**	**1.99**	**3.53**
Total World	**102.06**	**103.62**	**103.51**	**104.85**	**105.23**	**104.31**	**2.25**	**2.20**
Previous Estimate	102.06	103.76	103.43	104.74	105.28	104.31	2.25	2.20
Revision	0.00	-0.15	0.09	0.12	-0.05	0.00	0.00	0.00

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

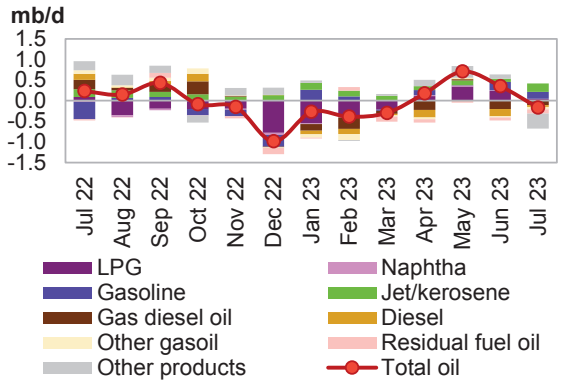
OECD

OECD Americas

Update on the latest developments

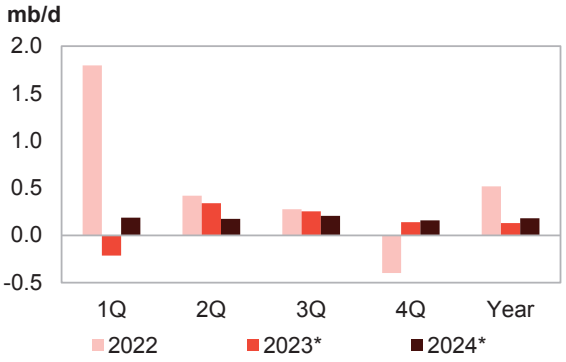
Oil demand in OECD Americas in **July** declined by 170 tb/d y-o-y, down from the y-o-y growth of 352 tb/d seen the previous month. Details of the contribution of various products are discussed in the sub-section on US oil products demand.

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 declined by 93 tb/d y-o-y in July, down from the 283 tb/d y-o-y growth seen the previous month. Despite this overall decrease, demand for transportation fuels, gasoline and jet/kerosene in the US showed robust growth.

General inflation has increased in the US, while core inflation has retracted slightly, but remained at an elevated level. The general price index increased to 3.2% y-o-y in July, after it had slowed to 3% in June. Core inflation remained at a relatively high level of 4.7% in July, following 4.8% in June. The services PMI continued in expansion territory for the 14th month to stand at 52.7 in July, slightly down from the 53.0 points recorded in June. However, the July manufacturing PMI stood at 46.4 points, almost the same as what was seen in June, remaining below the growth-indicating level of 50 for the eleventh-consecutive month.

Data from the Federal Highway Administration shows that miles travelled on all roads increased by 2.9% (8.0 billion vehicle miles) in July 2023, y-o-y. Vehicle miles travelled (VMT) for the month are estimated at 287.3 billion.

Demand for diesel declined by 74 tb/d y-o-y in July, recording a slight improvement from the 91 tb/d y-o-y decline in June. Residual fuels saw a y-o-y decline of 51 tb/d, y-o-y, broadly the same y-o-y decline as seen in June. Naphtha was almost flat for the second consecutive month. Finally, demand for ´other products´ declined by 380 tb/d y-o-y.

On the positive side, supported by steady summer driving activity and robust US road traffic, gasoline demand grew by 201 tb/d y-o-y. Buoyed by sustained air travel activity jet/kerosene grew by 177 tb/d y-o-y, up from 53 tb/d y-o-y recorded in June. Finally, LPG saw a slight 38 tb/d y-o-y growth.

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

By product	Jul 22	Jul 23	Change Growth	Jul 23/Jul 22 %
LPG	3.35	3.39	0.04	1.1
Naphtha	0.14	0.14	0.00	-3.5
Gasoline	8.81	9.01	0.20	2.3
Jet/kerosene	1.61	1.78	0.18	11.0
Diesel	3.72	3.65	-0.07	-2.0
Fuel oil	0.31	0.26	-0.05	-16.3
Other products	2.27	1.89	-0.38	-16.7
Total	**20.22**	**20.12**	**-0.09**	**-0.5**

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

Near-term expectations

In the near term, economic activity in the US is anticipated to remain healthy and the US economy is expected to experience ongoing strong support from private household consumption due to continuous labour market tightness and the consequences of sustained robust disposable income levels. In **4Q23** air travel activity is expected to remain healthy and support oil demand. However, driving activity is anticipated to slow down during the winter season. Furthermore, the continued weakening of manufacturing activity is likely to impact the demand for industrial fuels, particularly diesel. In 4Q23, oil demand is anticipated to grow by 51 tb/d y-o-y. On the back of continued robust air travel activity, jet kerosene is anticipated to continue to drive oil demand.

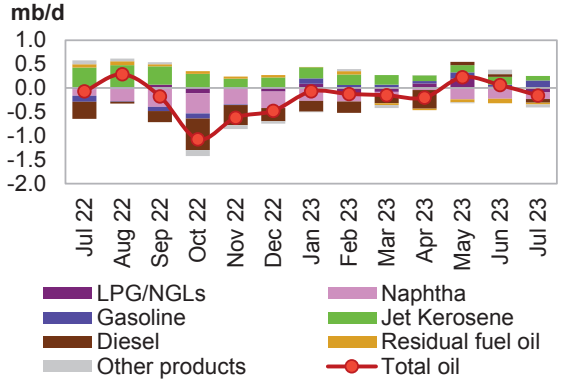
In **1Q24,** economic activity is expected to remain healthy and support the petrochemical sector and mobility, which will help oil demand grow by 135 tb/d. Jet/ kerosene and LPG are expected to be the main drivers of products demand growth. In **2024**, the US is expected to see y-o-y demand growth of around 140 tb/d.

OECD Europe

Update on the latest developments

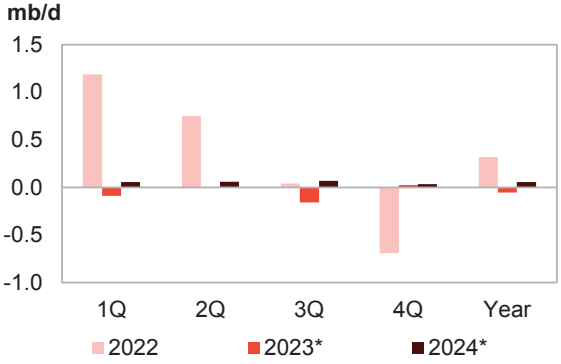
Oil demand in OECD Europe softened by 157 tb/d y-o-y in July, down from the 63 tb/d y-o-y growth seen in June. Oil products demand in OECD Europe has remained subdued for over a year, largely due to the struggles experienced by the European manufacturing and petrochemical sectors, particularly in Germany, the region's largest economy and centre for manufacturing and petrochemical activity. In addition, persistently high core inflation and supply chain bottlenecks compounded the problem. Eurozone annual inflation was 5.2% in July 2023, down from 5.5% in June. The apparent weakness in industrial and petrochemical sector activity is impacting diesel and feedstock demand, whereas resilience in 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.

The Eurozone services PMI retracted further to 50.9 points in July. The manufacturing PMI fell further and remained in contractionary territory, standing at 42.7 points in July, down from 43.4 in June. On a positive note, the IATA's Air Passenger Market Analysis reported that the international revenue passenger-kilometres (RPKs) performed by European carriers in July grew 17.7% y-o-y and were 8.3% short of 2019 figures.

Naphtha demand recorded the largest contraction with a 140 tb/d decrease y-o-y, demonstrating an improvement compared to the 227 tb/d y-o-y decline seen in the previous month. European ethylene and derivatives have been under pressure due to low margins weighing on demand for petrochemical feedstock. Diesel saw a 72 tb/d y-o-y decline in July as diesel-intensive industries in OECD Europe remained extremely subdued amid ongoing weak manufacturing activity and rising interest rates in the region. Residual fuels and LPG also saw y-o-y declines of 42 tb/d and 93 tb/d, respectively. Finally, demand for ´other products´ softened by 60 tb/d y-o-y, down from the 95 tb/d y-o-y growth seen in the previous month.

On the positive side, healthy driving activity and continued improvements in airline travel supported transportation fuels. Gasoline saw 160 tb/d y-o-y growth, up from the 39 tb/d y-o-y growth in the previous month. Jet/kerosene grew by 90 tb/d y-o-y, down from 166 tb/d recorded in June. The slightly softer demand growth for jet/kerosene was impacted by airline worker strikes and heavy rains that caused traffic disruptions in the region.

Near-term expectations

In the near term, economic activity in the region is projected to remain positive, albeit below 1Q23 growth rates. However, supply chain bottlenecks combined with weakening manufacturing activity are anticipated to continue into **4Q23**. Nevertheless, oil demand is anticipated to see a slight uptick of 26 tb/d in 4Q23, compared to the 158 tb/d y-o-y decline recorded in 3Q23. The demand recovery will mainly be supported by jet fuel and gasoline, while diesel and petrochemical feedstock are expected to remain weak.

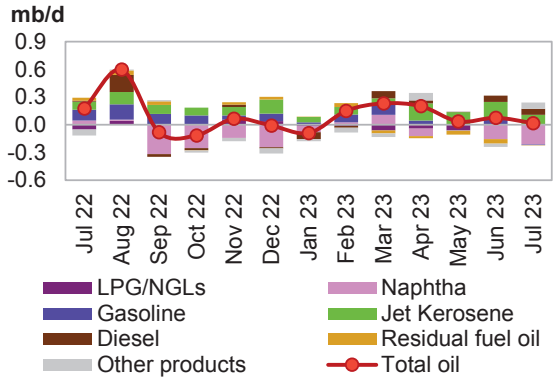
In **2024**, regional economic growth is projected to improve, with activity in the services sector anticipated to remain healthy while the manufacturing sector is expected to see some recovery. Oil demand is projected to see 57 tb/d y-o-y growth in 1Q24, mainly supported by regional jet/kerosene and gasoline consumption buoyed by stable demand for air travel and driving mobility. However, ongoing supply chain bottlenecks are likely to continue weighing on industrial fuels and petrochemical feedstock. 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

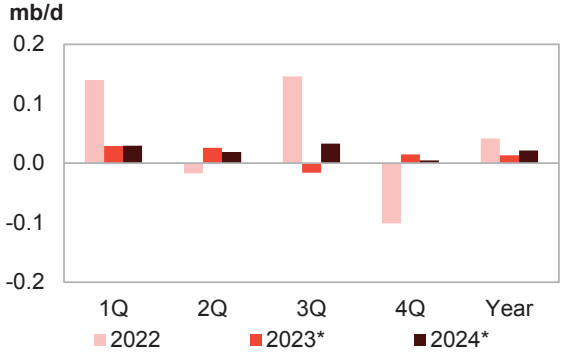
Oil demand in OECD Asia Pacific saw a slight increase of 17 tb/d y-o-y in July, following 75 tb/d y-o-y growth in June. All the growth came from Australia, as oil demand in Japan and South Korea remained subdued.

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 Japanese services PMI, which constitutes around two-thirds of the Japanese economy, retracted slightly to 53.8 points in July from 54 in June. The manufacturing PMI also fell to 49.6 in July from 49.8 in June.

The Australian PMI entered into contraction with 48 points in July, decreasing from 50.6 points in June. The manufacturing PMI also remains in the contraction zone, albeit with a slight improvement from 48.6 points in June to 49.6 in July. According to the latest data from the Australian Bureau of Statistics (ABS), the monthly CPI rose by 4.9% in July, down from the 5.4% growth recorded in June.

The South Korean manufacturing PMI stood at 49.4 points in July, unchanged from the previous month. The consumer price index in South Korea increased by 2.3% y-o-y in July 2023, easing for the sixth consecutive month to its lowest level in more than two years, supporting the central bank's move to pause its tightening cycle through most of this year.

On the back of continued air traffic recovery, jet/kerosene led oil demand growth with a y-o-y increase of 99 tb/d in July, albeit below the 193 tb/d recorded in the previous month. Diesel and ´other products´ saw 67 tb/d and 68 tb/d y-o-y growth, respectively.

Weakening petrochemical sector requirements in the region subdued demand for naphtha, which declined further by 213 tb/d y-o-y, compared to the y-o-y decline of 153 tb/d seen a month earlier. LPG remained broadly flat for the second consecutive month.

Near-term expectations

In the near term, economic activity in the region is anticipated to remain positive, albeit with variations among the region's countries. The services PMI in Japan, the largest economy in the region, has been in the expansion zone for over a year. In August and September, Japan's services PMI stood at 54.3 and 53.3 points, respectively. On the other hand, South Korea's manufacturing PMI has been in the contraction zone for more than a year. Steady air traffic recovery amid healthy driving activity and petrochemical industry operations are anticipated to support oil demand to grow by 15 tb/d y-o-y in **4Q23**.

In **1Q24**, sustained healthy regional economic activity is anticipated to support the services sector. In addition, healthy air travel dynamics and recovering petrochemical sector requirements in the region are projected to support 1Q24 y-o-y oil demand growth at a level of 30 tb/d. Overall, in **2024**, the region is anticipated to see y-o-y growth of 22 tb/d.

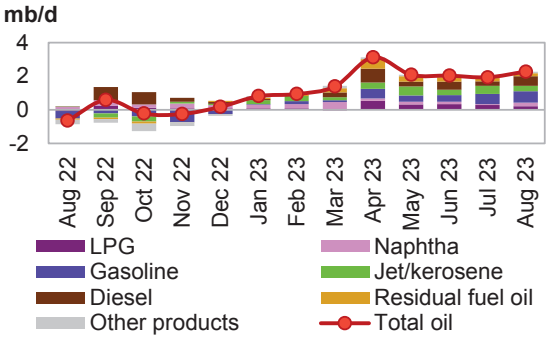
Non-OECD

China

Update on the latest developments

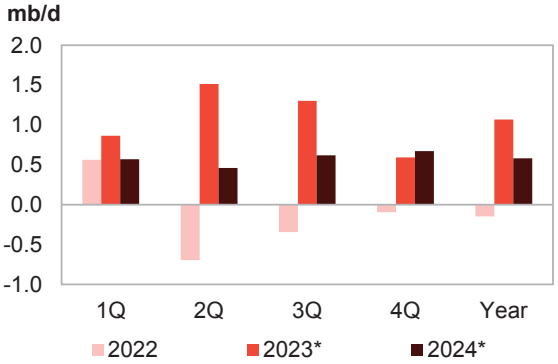
Oil demand in China expanded further in August by 2.3 mb/d y-o-y, up from y-o-y growth of nearly 2.0 mb/d reported in a month earlier. August oil demand growth was mostly driven by transportation fuels as seasonal summer travel and trucking supported the consumption of gasoline, diesel, and jet fuel amid robust petrochemical feedstock requirements.

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.

The forward-looking indicators remained healthy with China's services PMI standing at 51.8 in August. The manufacturing PMI was also at 51 points, following 49.2 in July. Driving mobility in China continued to increase with China's National Bureau of Statistics/Haver Analytics reporting 39.6% y-o-y growth in passenger turnover in terms of 100 million person-kilometres, compared with the 31.3%, y-o-y increase recorded in July. Similarly, air travel activity remained healthy. A report from IATA's Air Passenger Monthly Analysis indicates that domestic RPKs in China grew by 22.5% in July 2023, compared with July 2019, and by 71.9% y-o-y. However, seat capacity in July 2023 outpaced passenger demand and was 31.3% higher than July 2019 levels. The average passenger load factor in the country was 5.7% below pre-pandemic levels, reaching 79.2%.

August oil product demand was driven by requirements for transportation fuels, gasoline, diesel, and jet kerosene. Gasoline saw 670 tb/d y-o-y growth, up from 606 tb/d reported in July. Diesel grew by 554 tb/d y-o-y, up from the 259 tb/d seen in July. On the back of steady air travel recovery, jet kerosene grew by 339 tb/d y-o-y. Healthy petrochemical feedstock requirements supported LPG to post 206 tb/d y-o-y growth, and naphtha increased by 221 tb/d y-o-y, up from just 46 tb/d in July. Finally, residual fuels saw 186 tb/d y-o-y growth, while the 'other products' category increased by 97 tb/d y-o-y.

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

By product	Aug 22	Aug 23	Change Aug 23/Aug 22 Growth	Change Aug 23/Aug 22 %
LPG	2.26	2.46	0.21	9.1
Naphtha	1.64	1.86	0.22	13.5
Gasoline	2.86	3.53	0.67	23.5
Jet/kerosene	0.61	0.95	0.34	55.4
Diesel	3.37	3.92	0.55	16.4
Fuel oil	0.66	0.84	0.19	28.3
Other products	2.41	2.51	0.10	4.0
Total	**13.80**	**16.08**	**2.27**	**16.5**

*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

Looking ahead, despite the current healthy economic and services sector activity, recent Chinese economic indicators have highlighted a slowing trend in industrial production. Accordingly, the momentum of oil demand is anticipated to slow down compared to the strong growth experienced in 1H23. With this, oil demand in **4Q23** is anticipated to grow by 591 tb/d y-o-y. Overall, in 2023, oil demand in China is expected to grow by 1.1 mb/d y-o-y.

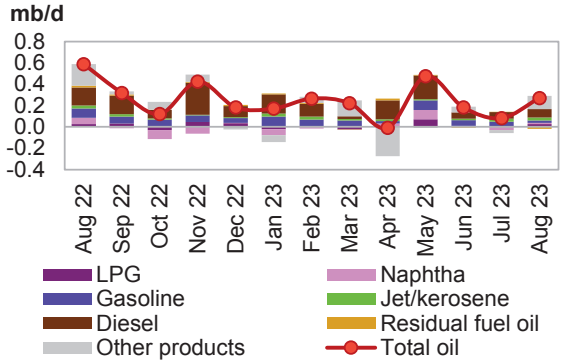
In **2024**, despite an expected easing in the momentum of China's GDP growth compared to 2023, oil demand is expected to be supported by sustained healthy services sector activity (including leisure, travel, and tourism), the recovery in manufacturing activity, as well as petrochemical sector requirements. Thereby, oil demand is forecast to see 571 tb/d y-o-y growth in **1Q24**. Jet fuel will again drive oil demand growth in this quarter, with millions of air passengers expected to support air travel activity during the annual festive season. Light distillates are also expected to continue rising on the back of a sustained expansion of the petrochemical industry. Increased mobility is expected to boost demand for gasoline and diesel. For the year, China's average y-o-y growth is anticipated to stand at 580 tb/d.

India

Update on the latest developments

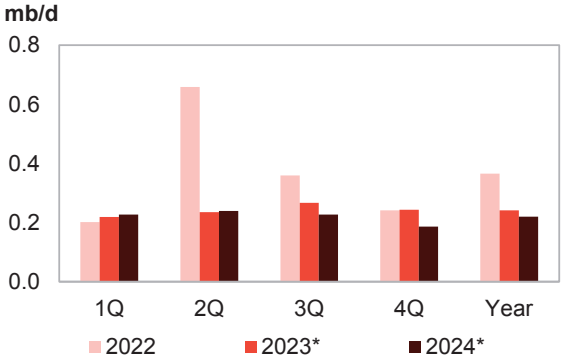
Oil demand in India in August surged by 272 tb/d y-o-y, up from a y-o-y increase of 83 tb/d in July. This remarkable increase in oil products demand was attributed to an uptick in factory activity and increased mobility. The main drivers of oil demand growth were the ´other products´ category, consisting mostly of bitumen and lube oil, along with diesel.

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.

India's services PMI stood at 60.1 points in August. Similarly, the manufacturing PMI increased to 58.6 points in August from a level of 57.7 in July. India's inflation rate eased to 6.8% in August from a 15-month high of 7.4% in July. According to the FADA and Haver Analytics, India's vehicle sales increased by 8.6% m-o-m from July to August. Similarly, according to the Directorate General of Civil Aviation (DGCA), India's domestic air traffic saw a growth of 22.8% in August 2023 compared to the same month a year earlier.

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

By product	Aug 22	Aug 23	Change Growth	Aug 23/Aug 22 %
LPG	0.92	0.95	0.03	3.0
Naphtha	0.33	0.34	0.01	3.2
Gasoline	0.84	0.87	0.02	2.9
Jet/kerosene	0.18	0.21	0.03	15.4
Diesel	1.56	1.64	0.08	5.0
Fuel oil	0.17	0.15	-0.02	-11.2
Other products	0.96	1.09	0.12	12.8
Total	**4.96**	**5.24**	**0.27**	**5.5**

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 August, ´other products´, which includes bitumen and lube oil, led oil demand growth by 123 tb/d, y-o-y, higher than the 83 tb/d y-o-y increase recorded in July. Diesel grew by 78 tb/d y-o-y, slightly higher than the 61 tb/d seen in the previous month. Gasoline saw 24 tb/d y-o-y growth, down from the 49 tb/d recorded in July. On the back of steady air travel recovery, y-o-y jet/kerosene demand growth remained at 28 tb/d in August. In terms of petrochemical feedstock, LPG expanded by 27 tb/d y-o-y, up from zero growth in the previous month, while naphtha saw a 10 tb/d y-o-y increase, up from a 23 tb/d y-o-y decline a month earlier. Residual fuel demand softened by 19 tb/d y-o-y, down from zero growth in July.

Near-term expectations

Looking forward to **4Q23**, current healthy economic activity, combined with steady mobility in India, is expected to be sustained. In addition, the government's proposed increase in capital spending on construction and manufacturing is expected to boost economic activity. In 4Q23 oil demand is expected to see an increase of 243 tb/d y-o-y, with transportation fuels, notably gasoline, diesel and jet/kerosene expected to drive oil demand growth.

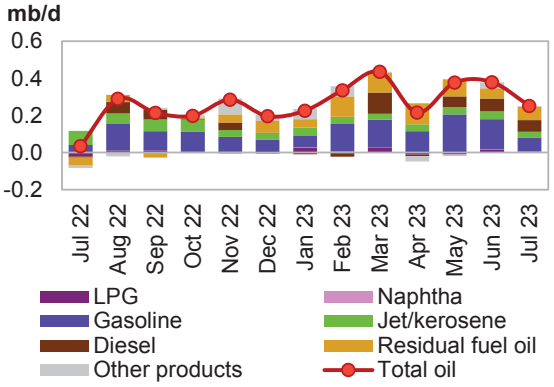
Healthy annual 5.9% GDP growth supporting mobility and sustained demand for distillates in the manufacturing sector is expected to see **1Q24** oil demand increasing by 230 tb/d, y-o-y. In **2024**, India's average oil demand growth is projected at 220 tb/d y-o-y.

Latin America

Update on the latest developments

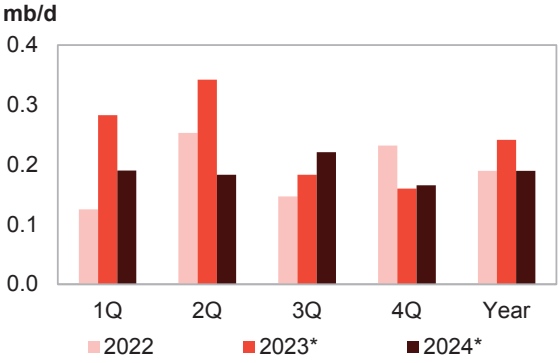
Oil demand in Latin America saw 252 tb/d y-o-y growth in July, down from 379 tb/d reported in June. The transportation sector's requirements in Brazil and Venezuela continue to be the main drivers of regional oil demand growth.

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 stood at 3.5% in July, broadly in line with market forecasts. The Brazilian services PMI retracted to 50.2 in July from 53.3 points in June. At the same time, the Brazilian manufacturing PMI remained below the growth-indicating level at 47.8 points, albeit registering an improvement from the 46.6 points reported in June.

According to IATA, airlines in Latin America have taken another significant step towards complete international traffic recovery in July, with international RPKs only 1.9% lower than 2019 levels. In terms of domestic RPKs, Brazil's domestic RPKs surpassed pre-pandemic levels for a third consecutive month, to stand 4.5% above July 2019 levels.

For the seventh consecutive month, gasoline remained the main driver of oil demand in the region, supported by steady mobility. Gasoline grew by 74 tb/d y-o-y, down from the 163 tb/d y-o-y growth recorded in June. Diesel saw 63 tb/d y-o-y growth in July, down from 70 tb/d in the previous month, while residual fuels expanded by 73 tb/d y-o-y. On the back of steady air travel recovery, jet/kerosene saw growth of 30 tb/d y-o-y, slightly below the 42 tb/d recorded a month earlier. In terms of petrochemical feedstock, the demand for both LPG and naphtha remained broadly flat in July. Finally, demand for ´other products´ was also broadly unchanged, y-o-y.

Near-term expectations

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

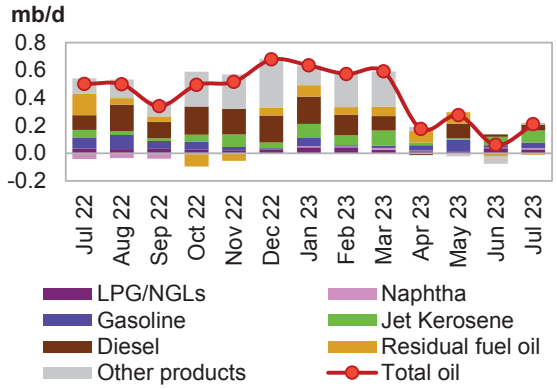
Amid healthy GDP growth combined with expected improvements in air travel, oil demand growth is forecast at 190 tb/d y-o-y in 1Q24. For the year, the region's average growth is anticipated to stand at 190 tb/d y-o-y. The outlook for oil demand growth sees transportation fuel demand expanding the most, followed by diesel and petrochemical feedstock.

Middle East

Update on the latest developments

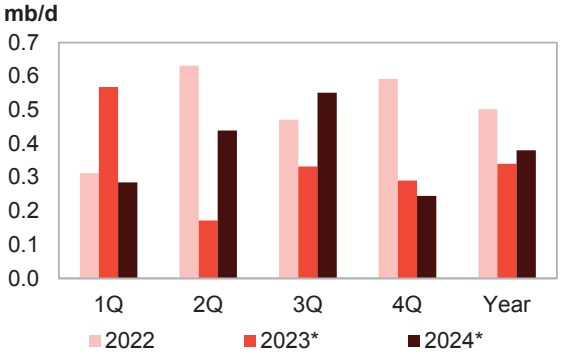
Oil demand in the Middle East expanded by 209 tb/d y-o-y in July, up from the 60 tb/d y-o-y growth reported in June. The demand growth was mostly supported by requirements from Iraq and the UAE.

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 region's largest economies, Saudia Arabia and the UAE, has been healthy and supportive of oil demand. The Saudi Arabian economy is expected to expand by 2.8% y-o-y in 2023, with a healthy contribution by non-oil activities. Similarly, the Saudi Arabian Composite Purchasing Managers Index (PMI) for July stood at 57.7 points. The annual inflation rate in Saudi Arabia decreased for the second consecutive month to 2.3% in July, down from 2.7% a month earlier.

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

			Change	*Aug 23/Aug 22*
By product	**Aug 22**	**Aug 23**	**Growth**	**%**
LPG	0.04	0.05	0.01	17.0
Gasoline	0.50	0.50	0.00	-0.4
Jet/kerosene	0.04	0.10	0.05	124.6
Diesel	0.67	0.64	-0.03	-5.1
Fuel oil	0.69	0.67	-0.02	-3.0
Other products	0.75	0.82	0.07	8.9
Total	**2.70**	**2.77**	**0.07**	**2.6**

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

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 for July stood at 55 points.

In terms of air travel, 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 July with international passenger traffic up 22.6% y-o-y, and international RPKs remained just 4.2% below pre-pandemic levels.

The contributions of oil products to Middle East demand in July show that, for the second consecutive month, jet/kerosene was the main driver, up by 87 tb/d y-o-y, which was higher than the 61 tb/d seen the previous month. Gasoline and diesel posted 43 tb/d and 42 tb/d y-o-y growth, respectively. LPG saw 28 tb/d y-o-y growth, down from 36 tb/d in June. ´Other fuels´ recorded y-o-y growth of 13 tb/d, up from a decline of 56 tb/d y-o-y in June. Residual fuels softened further by 12 tb/d y-o-y compared to the 20 tb/d annual decline recorded the previous month.

Near-term expectations

Steady economic activity in the region is expected to be sustained. In addition, the continued strong recovery in international air traffic should boost jet/kerosene demand and support oil demand growth in the region which is expected to expand by an average of 290 tb/d y-o-y in **4Q23**.

Regional economic activity is expected to remain healthy in **1Q24** with 2024 GDP growth rates forecast to surpass those of 2023. In addition, air travel is expected to fully recover and surpass pre-pandemic levels. Gasoline, transportation diesel and jet kerosene are expected to lead oil demand growth which is expected to stand at 285 tb/d y-o-y in 1Q24. Overall, **in 2024**, the Middle East is expected to see y-o-y growth of nearly 380 tb/d. The bulk of demand growth is expected to come from Iraq, Saudi Arabia and the UAE.

World Oil Supply

Non-OPEC liquids production in 2023 is expected to grow by 1.7 mb/d y-o-y, reaching 67.5 mb/d. Upward revisions to the forecasts for Russia, the US and Latin America were more than offset downward revisions to OECD Europe and Other Eurasia.

US crude and condensate production reached the second-highest level ever in July, just under the record of 13 mb/d set in November 2019; however, slightly lower output is expected in 4Q23. Accordingly, US liquids supply growth for 2023 is forecast at 1.2 mb/d. In addition to the US, the other main growth drivers for 2023 are anticipated to be Brazil, Norway, Kazakhstan, Guyana and China. Nonetheless, there are uncertainties related to US shale oil output potential and offshore unplanned maintenance for the rest of the year.

Non-OPEC liquids production in 2024 is forecast to grow by 1.4 mb/d to average 68.9 mb/d (including 50 tb/d in processing gains). OECD liquids supply is forecast to increase by 0.9 mb/d to average 33.3 mb/d, while non-OECD liquids supply is seen growing by 0.4 mb/d to average at 33.0 mb/d. The main drivers for the expected growth are the US, Canada, Guyana, Brazil, Norway and Kazakhstan. Along with the shale basins, projected ramp-ups, especially in the offshore fields, are expected to be the main sources of growth. 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 and to increase by 65 tb/d to average 5.5 mb/d in 2024. OPEC-13 crude oil production in September increased by 273 tb/d m-o-m to average 27.75 mb/d, according to available secondary sources.

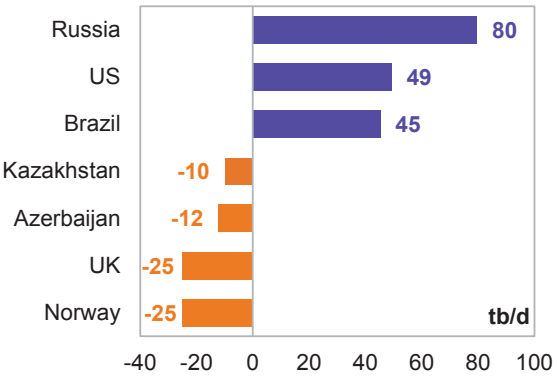
Non-OPEC liquids production in September, including OPEC NGLs, is estimated to have dropped by 0.3 mb/d m-o-m to average 72.9 mb/d. This is an increase of 1.4 mb/d y-o-y. As a result, preliminary data indicated that September's global oil supply is largely unchanged m-o-m to average at 100.6 mb/d, down by 0.5 mb/d y-o-y.

Non-OPEC liquids production in 2023 is forecast to expand by 1.7 mb/d. This is up by 0.1 mb/d from the previous month's growth assessment, mainly due to upward revisions to Russia and the US. It is worth noting that this takes into account all announced production adjustments of the countries in the DoC to the end of 2023.

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

The **non-OECD supply growth** projection for 2023 was revised up by around 100 tb/d and is now expected to grow by 0.2 mb/d y-o-y.

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

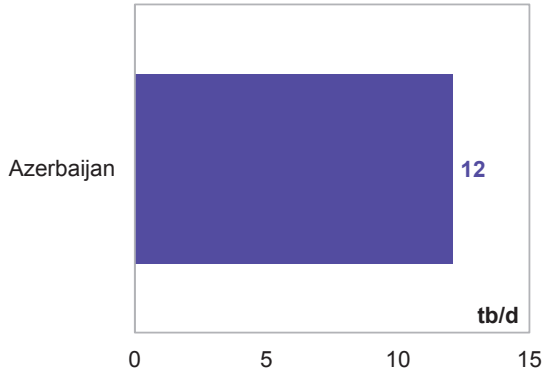


*Note: * 2023 = Forecast. Source: OPEC.*

Non-OPEC liquids production growth forecast in **2024** remained unchanged compared with the previous month's assessment at average 1.4 mb/d.

The upward revision to the supply forecast of Azerbaijan offset downward revisions to a few other countries.

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

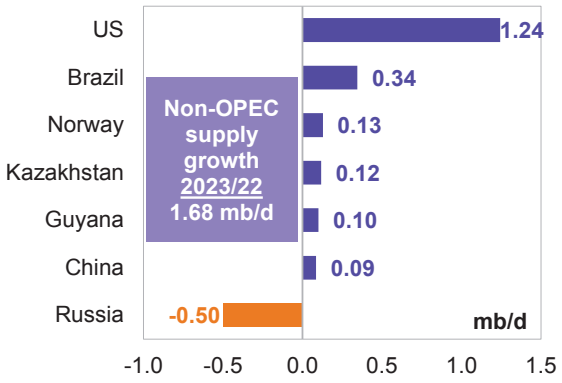


*Note: * 2024 = Forecast. Source: OPEC.*

Key drivers of growth and decline

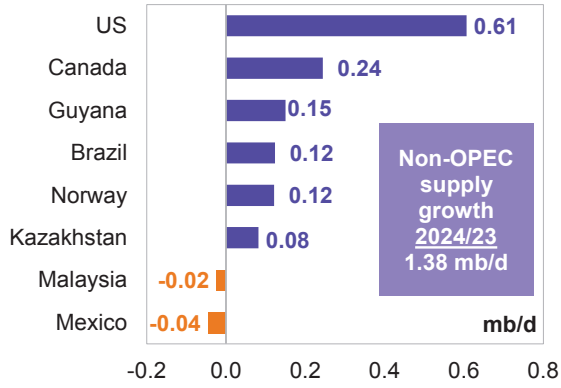
The **key drivers of non-OPEC liquids supply growth in 2023** are projected to be the US, Brazil, Norway, Kazakhstan, Guyana and China, while oil production is projected to see the largest decline in Russia.

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

							Change 2023/22	
Non-OPEC liquids production	**2022**	**1Q23**	**2Q23**	**3Q23**	**4Q23**	**2023**	**Growth**	**%**
Americas	26.92	27.90	28.15	28.59	28.52	28.29	1.38	5.11
of which US	*19.28*	*20.10*	*20.70*	*20.79*	*20.50*	*20.53*	*1.24*	*6.45*
Europe	3.58	3.69	3.65	3.59	3.74	3.67	0.09	2.40
Asia Pacific	0.48	0.45	0.45	0.46	0.47	0.46	-0.02	-4.10
Total OECD	**30.97**	**32.04**	**32.24**	**32.64**	**32.74**	**32.42**	**1.44**	**4.66**
China	4.48	4.63	4.63	4.50	4.50	4.56	0.09	1.91
India	0.77	0.76	0.78	0.78	0.78	0.78	0.00	0.32
Other Asia	2.30	2.31	2.27	2.29	2.37	2.31	0.01	0.30
Latin America	6.34	6.69	6.77	6.99	6.88	6.83	0.50	7.84
Middle East	3.29	3.27	3.29	3.27	3.30	3.28	-0.01	-0.16
Africa	1.29	1.24	1.27	1.27	1.30	1.27	-0.02	-1.81
Russia	11.03	11.19	10.86	10.62	9.47	10.53	-0.50	-4.55
Other Eurasia	2.83	2.99	2.93	2.85	2.97	2.94	0.11	3.83
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**	**32.90**	**32.66**	**31.68**	**32.61**	**0.17**	**0.51**
Total Non-OPEC production	63.42	65.25	65.14	65.30	64.41	65.02	1.61	2.54
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**	**67.61**	**67.77**	**66.88**	**67.49**	**1.68**	**2.55**
Previous estimate	65.81	67.72	67.43	67.39	67.04	67.39	1.58	2.40
Revision	0.00	0.00	0.18	0.38	-0.15	0.10	0.10	0.15

*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	28.29	28.76	28.79	29.26	29.57	29.10	0.81	2.85
of which US	*20.53*	*20.79*	*21.01*	*21.28*	*21.44*	*21.13*	*0.61*	*2.96*
Europe	3.67	3.87	3.76	3.70	3.85	3.79	0.13	3.44
Asia Pacific	0.46	0.47	0.44	0.45	0.43	0.44	-0.01	-2.90
Total OECD	**32.42**	**33.09**	**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	1.70
Other Asia	2.31	2.29	2.27	2.24	2.24	2.26	-0.05	-2.14
Latin America	6.83	7.00	7.07	7.20	7.28	7.14	0.31	4.46
Middle East	3.28	3.33	3.32	3.31	3.32	3.32	0.04	1.20
Africa	1.27	1.26	1.27	1.33	1.38	1.31	0.04	3.15
Russia	10.53	10.35	10.47	10.59	10.70	10.53	0.00	-0.02
Other Eurasia	2.94	3.01	3.01	2.99	3.03	3.01	0.07	2.53
Other Europe	0.10	0.10	0.10	0.10	0.10	0.10	0.00	-1.15
Total Non-OECD	**32.61**	**32.73**	**32.87**	**33.11**	**33.38**	**33.02**	**0.41**	**1.27**
Total Non-OPEC production	65.02	65.82	65.85	66.51	67.23	66.36	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	**67.49**	**68.34**	**68.37**	**69.03**	**69.75**	**68.88**	**1.38**	**2.05**
Previous estimate	67.39	68.25	68.31	68.93	69.61	68.78	1.38	2.05
Revision	0.10	0.09	0.06	0.10	0.14	0.10	0.00	0.00

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

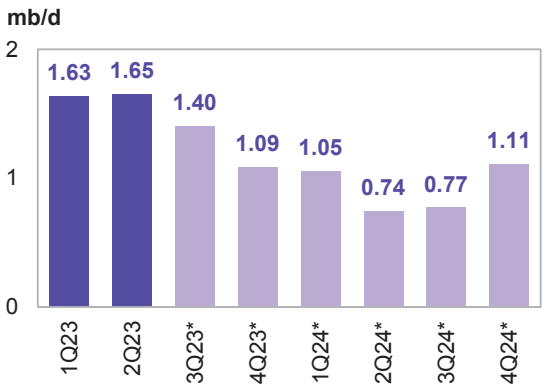
Source: OPEC.

OECD

OECD liquids production in 2023 is forecast to expand by 1.4 mb/d to average 32.4 mb/d. An upward adjustment was applied m-o-m following higher expectations for growth in OECD Americas.

Growth is set to be led by OECD Americas, which is forecast to expand by 1.4 mb/d to average 28.3 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 around 50 tb/d compared with the previous month. OECD Asia Pacific is expected to decline by around 20 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 for 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 for an average of 29.1 mb/d. Yearly oil production in OECD Europe is anticipated to grow by 0.1 mb/d for an average of 3.8 mb/d, while OECD Asia Pacific is expected to decline by 13 tb/d y-o-y for an average of 0.4 mb/d.

OECD Americas

US

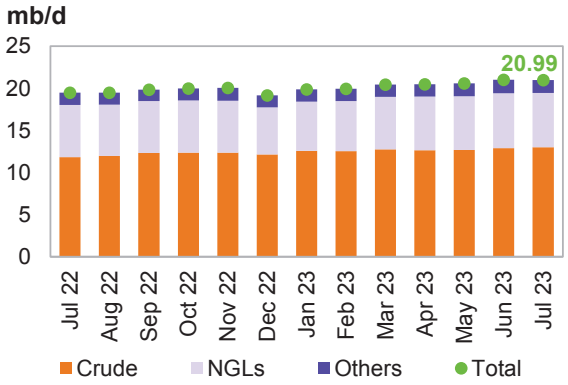
US liquids production in **July** fell by 23 tb/d m-o-m for an average of 21.0 mb/d, the second-highest level on record which was just set last month. This was up by 1.5 mb/d compared with July 2022.

Crude oil and condensate production rose by 91 tb/d m-o-m to average 13.0 mb/d in **July**. This was up by 1.2 mb/d y-o-y.

In terms of **crude and condensate production breakdowns by region (PADDs)**, production increased mainly on the US Gulf Coast (USGC), where it rose by 154 tb/d to average 9.5 mb/d. Production in the Rocky Mountain and West Coast regions dropped by around 20 tb/d and 30 tb/d, respectively. Output on the Midwest and East Coast remained broadly unchanged m-o-m.

Production growth in the main regions was primarily driven by robust output in Texas and the Gulf of Mexico (GoM) producing fields, while output in Alaska mainly declined.

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



Sources: EIA and OPEC.

NGL production was down by 82 tb/d m-o-m to average 6.4 mb/d in July. This was higher y-o-y by 0.3 mb/d. According to the US Department of Energy (DoE), the production of **non-conventional liquids** (mainly ethanol) fell by 32 tb/d to average 1.6 mb/d. Preliminary estimates see non-conventional liquids averaging around 1.5 mb/d in August, down by 25 tb/d m-o-m.

GoM production rose by 73 tb/d m-o-m to average 1.9 mb/d in July, 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 44 tb/d m-o-m to average 10.7 mb/d in July.

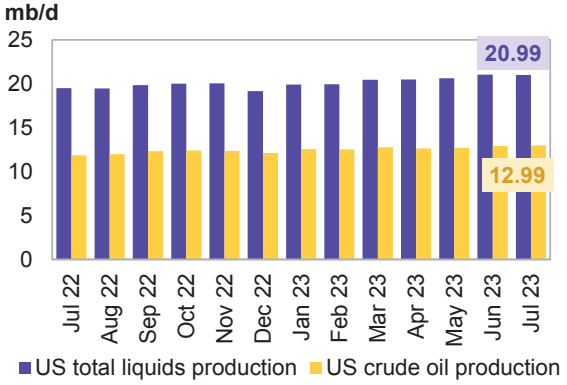
Table 5 - 3: US crude oil production by selected state and region, tb/d

State	Jul 22	Jun 23	Jul 23	Change m-o-m	Change y-o-y
Texas	4,979	5,556	5,628	*72*	*649*
Gulf of Mexico (GOM)	1,727	1,856	1,929	*73*	*202*
New Mexico	1,590	1,770	1,781	*11*	*191*
North Dakota	1,061	1,160	1,174	*14*	*113*
Colorado	433	461	452	*-9*	*19*
Oklahoma	407	440	438	*-2*	*31*
Alaska	432	423	397	*-26*	*-35*
Total	**11,834**	**12,900**	**12,991**	***91***	***1,157***

Sources: EIA and OPEC.

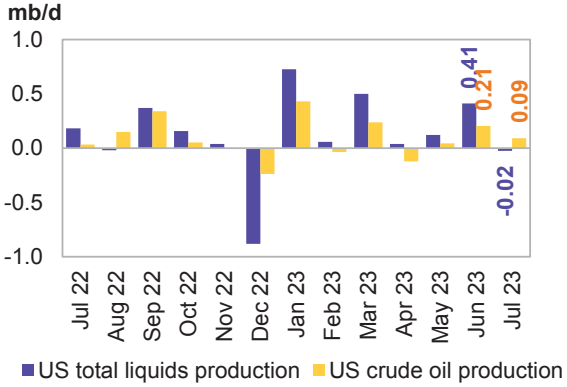
Looking at **individual US states**, New Mexico's oil production rose by 11 tb/d to average 1.8 mb/d, which is 191 tb/d higher than a year ago. Production from Texas was up by 72 tb/d to average 5.6 mb/d, which is 649 tb/d higher than a year ago. In the Midwest, North Dakota's production rose by 14 tb/d m-o-m to an average of 1.2 mb/d, up by 113 tb/d y-o-y. While Oklahoma's production remained broadly unchanged m-o-m at an average of 0.4 mb/d. Production in Alaska and Colorado fell by 26 tb/d and 9 tb/d, respectively.

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



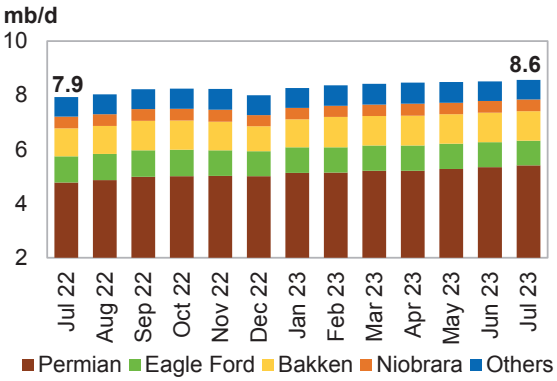
Sources: EIA and OPEC.

US tight crude output in **July** is estimated to have risen by 57 tb/d m-o-m to average 8.6 mb/d, according to the latest estimates 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 and New Mexico, where output rose by 65 tb/d for an average of 5.4 mb/d. This was up y-o-y by 625 tb/d.

In North Dakota, Bakken shale oil output remained largely unchanged m-o-m to average 1.1 mb/d, up by 56 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 42 tb/d y-o-y. Production in Niobrara-Codell in Colorado and Wyoming was unchanged at an average of 426 tb/d.

Graph 5 - 9: US tight crude output breakdown

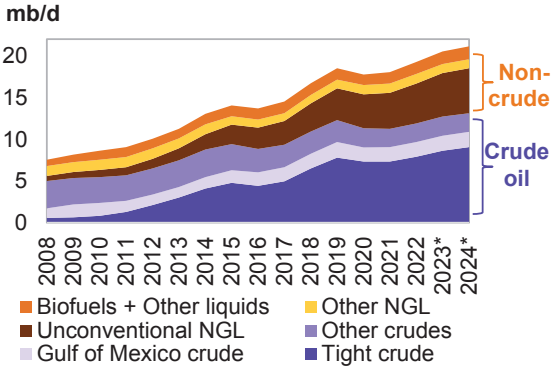


Sources: EIA and OPEC.

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 around 50 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 and operational efficiency have proved to be enhanced. 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 0.4 mb/d and 55 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, NGL 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	7.93	0.58	8.63	0.70	9.07	0.44
Gulf of Mexico crude	1.73	0.02	1.82	0.09	1.84	0.02
Conventional crude oil	2.25	0.04	2.30	0.05	2.20	-0.10
Total crude	**11.91**	**0.64**	**12.75**	**0.83**	**13.11**	**0.36**
Unconventional NGLs	4.78	0.47	5.19	0.41	5.42	0.24
Conventional NGLs	1.15	0.04	1.10	-0.05	1.07	-0.03
Total NGLs	**5.93**	**0.51**	**6.29**	**0.35**	**6.50**	**0.21**
Biofuels + Other liquids	1.44	0.08	1.49	0.05	1.53	0.03
US total supply	**19.28**	**1.23**	**20.53**	**1.24**	**21.13**	**0.61**

*Note: * 2023 and 2024 = Forecast.*

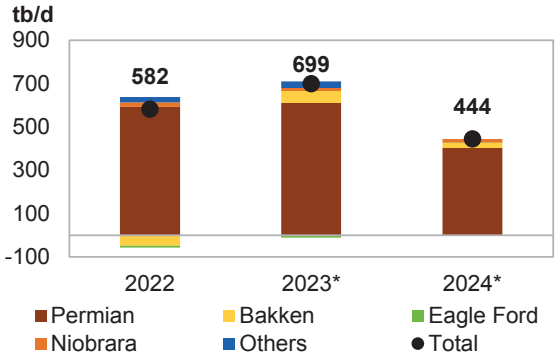
Sources: EIA, OPEC and Rystad Energy.

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

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 for an average of 1.1 mb/d. Growth of just 25 tb/d is anticipated for 2024 for an average of 1.1 mb/d, demonstrating signs of maturity in the basin.

The **Eagle Ford** in Texas saw an 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, 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 14 tb/d in 2023 to average 447 tb/d. It is forecast to increase by 17 tb/d in 2024 to average 464 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	4.79	0.59	5.40	0.61	5.80	0.40
Bakken shale	1.03	-0.05	1.09	0.06	1.11	0.02
Eagle Ford shale	0.95	-0.01	0.94	-0.01	0.94	0.00
Niobrara shale	0.43	0.02	0.45	0.01	0.46	0.02
Other tight plays	0.73	0.03	0.76	0.03	0.76	0.00
Total	**7.93**	**0.58**	**8.63**	**0.70**	**9.07**	**0.44**

*Note: * 2023 and 2024 = Forecast.*

Source: OPEC.

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

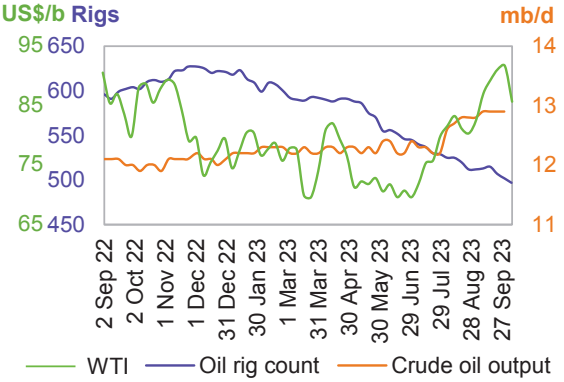
Total **active US drilling rigs** in the week ending 6 October 2023 fell by 4 to 619, according to Baker Hughes. This was down by 143 rigs compared with a year ago. The number of active offshore rigs remained unchanged w-o-w at 20. This was higher by seven compared with the same month a year earlier. Onshore oil and gas rigs were lower w-o-w by 4 to stand at 596, with three rigs in inland waters. This is down by 150 rigs y-o-y.

The **US horizontal rig count** remained unchanged w-o-w at 553, compared with 698 horizontal rigs a year ago. The number of drilling rigs for oil dropped by five w-o-w to 497, while gas-drilling rigs rose w-o-w by two to 118.

The Permian's rig count fell by three w-o-w to 309. Rig counts fell by one in Williston to 32 and rose by 1 in Eagle Ford to 50. The rig count remained unchanged w-o-w in Cana Woodford at 16 and in DJ-Niobrara at 14.

No operating oil or gas rigs have been reported in the Barnett Basin since 21 July.

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



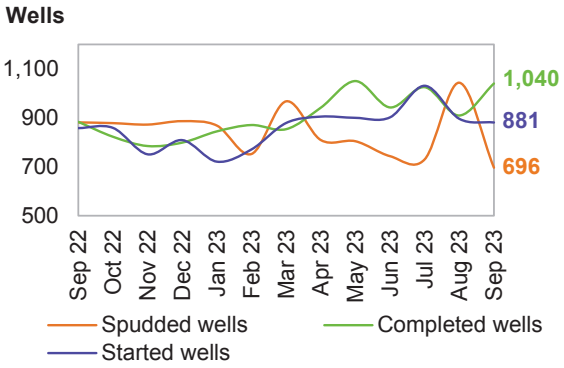
Sources: Baker Hughes, EIA and OPEC.

Drilling and completion (D&C) activities for spudded, completed and started oil-producing wells in all US shale plays included 1,043 horizontal wells spudded in August (as per preliminary data), based on EIA-DPR regions. This is up by 313 m-o-m, and 15% higher than in August 2022.

Preliminary data for August indicates a lower number of completed wells at 909, up y-o-y by 5%. The number of started wells is estimated at 896, which is 8% higher than a year earlier.

Preliminary data for September 2023 saw 696 spudded, 1,040 completed and 881 started wells, according to Rystad Energy.

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

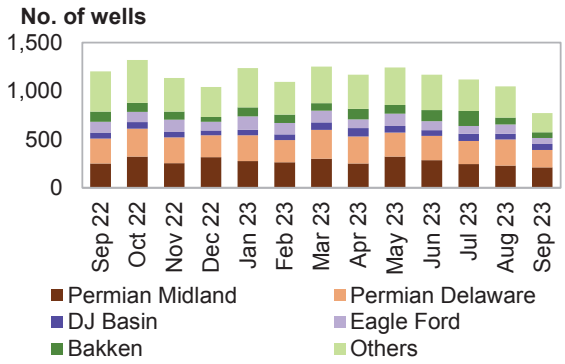


Note: Aug 23-Sep 23 = Preliminary data.
Sources: Rystad Energy and OPEC.

In terms of identified **US oil and gas fracking operations by region**, Rystad Energy reported that 1,117 wells were fracked in July. In August and September, it stated that 1,047 and 771 wells began fracking, respectively, according to preliminary numbers are based on the analysis of high-frequency satellite data.

In regional terms, preliminary August data show that 229 and 270 wells were fracked in Permian Midland and Permian Delaware, respectively. Compared with July, there was a decline of 15 wells in the Midland region and a drop of 8 in Delaware. Data also indicate that 59 wells were fracked in the DJ Basin, 96 in Eagle Ford and 70 in Bakken in August.

Graph 5 - 14: Fracked wells count per month



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

Canada

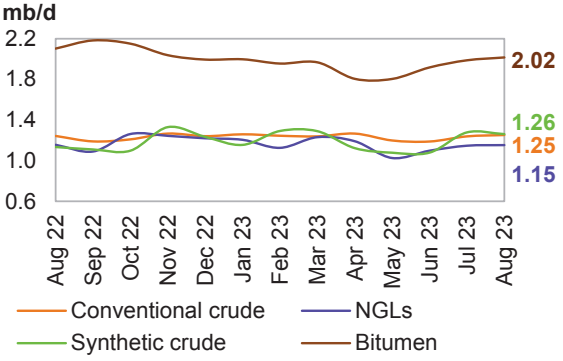
Canada's liquids production in **August** is estimated to have risen by 30 tb/d m-o-m for an average of 5.7 mb/d, continuing to recover from recent maintenance and disruptions.

Conventional crude production rose by 13 tb/d m-o-m in August to average 1.3 mb/d, while NGL output increased by a minor 6 tb/d to average 1.2 mb/d.

Crude bitumen production output rose by 28 tb/d m-o-m, while synthetic crude decreased by 17 tb/d m-o-m. Taken together, crude bitumen and synthetic crude production rose by 11 tb/d to 3.3 mb/d.

Growth in August was related to recovery after maintenance was completed at oil sand mines and upgraders, as well as production recovery in areas affected by wildfires.

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



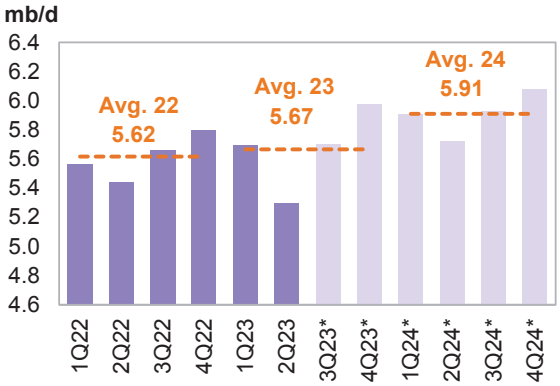
Sources: Statistics Canada, Alberta Energy Regulator and OPEC.

For **2023**, Canada's liquids production is forecast to increase by around 50 tb/d to average 5.7 mb/d. This is unchanged compared with the previous assessment, as downward revisions in 3Q23 output offset the growth in 2Q23.

Full maintenance recovery is expected for 4Q23 and the Terra Nova Floating Production Storage and Offloading unit (FPSO) is also expected to restart production in the following months after prolonged and delayed repairs.

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.

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



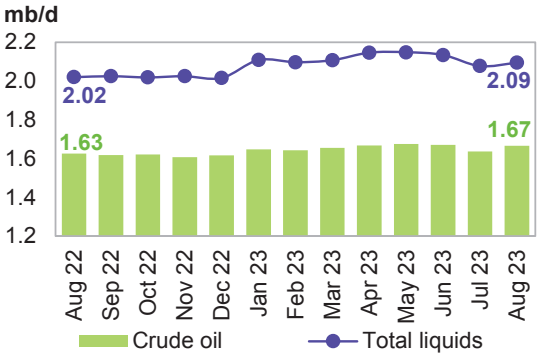
*Note: * 3Q23-4Q24 = Forecast. Source: OPEC.*

Mexico

Mexico's crude output increased by 29 tb/d m-o-m in **August** to average 1.7 mb/d, while NGL output fell by 12 tb/d. Mexico's total August liquids output rose by 17 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 outages in some mature fields.

For **2023**, liquids production is forecast to rise by around 85 tb/d to an average of 2.1 mb/d. This is unchanged 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 4Q23.

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

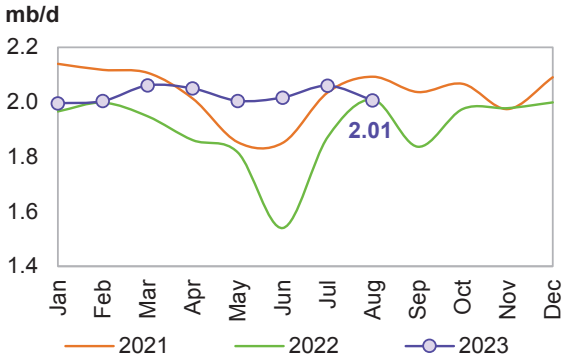
Norway

Norwegian liquids production in **August** fell by 53 tb/d m-o-m to average 2.0 mb/d. While the main oil fields were produced on schedule, there was some maintenance at several other fields.

Norway's crude production dropped by 47 tb/d m-o-m in August to average 1.8 mb/d, higher by a minor 6 tb/d y-o-y. Monthly oil production was 1% higher than the Norwegian Petroleum Directorate's (NPD) forecast.

Production of NGLs and condensate, meanwhile, fell by a minor 6 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 0.1 mb/d, revised down by around 25 tb/d compared with last month's forecast, for an average of 2.0 mb/d. Technical challenges, operational irregularities and periodical shut-downs have been the main sources of output decline in Norwegian production. Due to planned maintenance, a m-o-m decline is expected for Norway liquids production in September.

For **2024**, Norwegian liquids production is forecast to grow by 120 tb/d to average 2.1 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. Norway's Equinor and its partners stated that they had raised the project cost estimate for their joint Johan Castberg oilfield in the Arctic Barents Sea due to a larger-than-expected scope of work and cost increases in the industry. Johan Castberg is projected to be the main source of output increases next year, with the first oil planned for 4Q24.

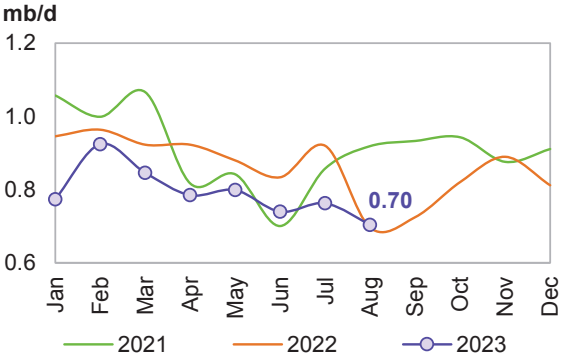
UK

In **August**, **UK liquids production** fell by 59 tb/d m-o-m to average 0.7 mb/d. Crude oil output decreased by 49 tb/d m-o-m to average 0.6 mb/d, higher by 20 tb/d y-o-y, according to official data. NGL output was down by 10 tb/d and averaged at 63 tb/d. UK liquids output in August was down by 1% compared with August 2022, mainly due to natural declines and planned maintenance.

For **2023**, UK liquids production is forecast to average 0.8 mb/d, down by around 25 tb/d from the previous assessment due to lower-than-expected August 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 for 1Q24. However, liquids production in the UK is expected to continue to face challenges given the insufficient number of new projects and low investments.

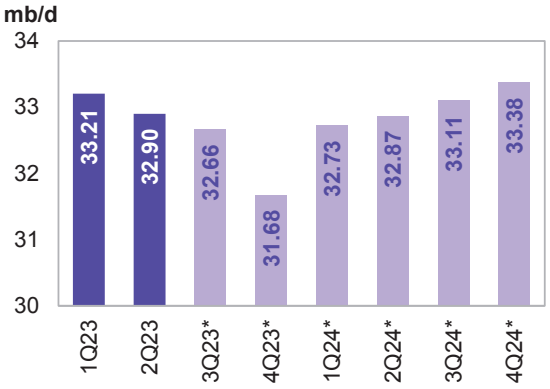
Graph 5 - 19: UK monthly liquids production development



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

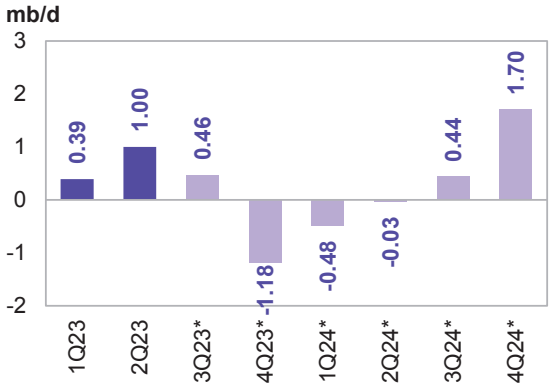
Non-OECD

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.*

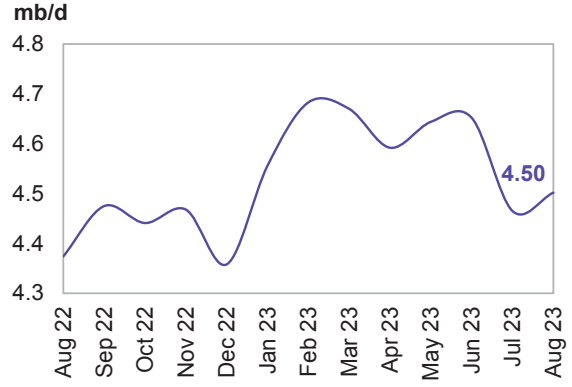
China

China's liquids production rose by 37 tb/d m-o-m to average 4.5 mb/d in **August**. This is up by 128 tb/d y-o-y, according to official data. Crude oil output in August averaged 4.1 mb/d, up by 37 tb/d compared with the previous month, and higher by 125 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. Chinese average crude production increased by around 2% y-o-y over January–August 2023, largely driven by growth from Chinese National Offshore Oil Company (CNOOC) offshore projects. CNOOC's Kenli 6-1 oilfield in the Bohai Sea commenced production in 4Q22 and became a key driver of Chinese supply.

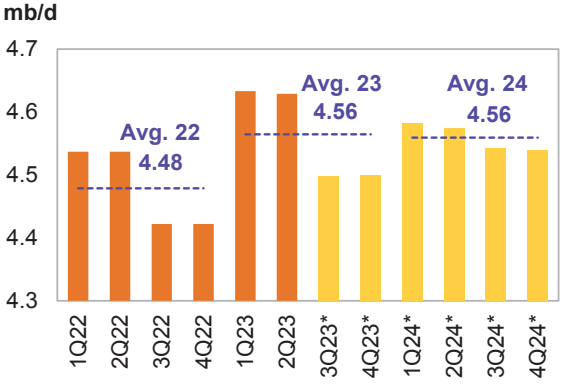
For **2024**, Chinese liquids production is expected to remain steady y-o-y and is forecast to average 4.6 m/d. For next year, Liuhua 11-1, Shayan and Liuhua 4-1 (redevelopment) are planned to come on stream under CNOOC and PetroChina. At the same time, main ramp-ups are expected from the Changqing,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



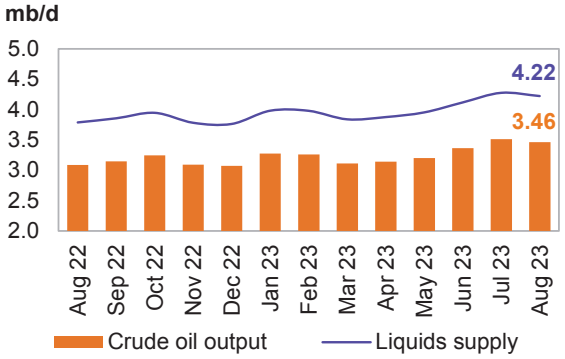
*Note: * 3Q23-4Q24 = Forecast. Sources: CNPC and OPEC.*

Latin America

Brazil

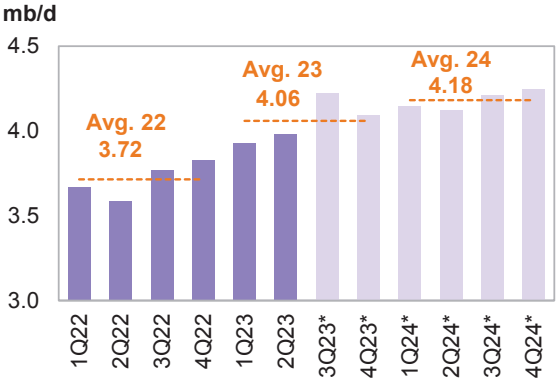
Brazil's crude output in **August** fell by 51 tb/d m-o-m for an average of 3.5 mb/d, mainly due to maintenance in the pre-salt fields. NGL production, however, was broadly unchanged at an average of 80 tb/d and was expected to remain flat in September. Biofuel output (mainly ethanol) remained mostly unchanged at an average of 678 tb/d, with preliminary data showing a stable trend in September. The country's total liquids production decreased by 53 tb/d in August to average 4.2 mb/d. This is slightly lower than the highest liquids production rate on record of 4.3 mb/d set in July 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 4.1 mb/d, revised up by 45 tb/d from the previous forecast due to stronger-than-expected output in August and higher expected production in 4Q23.

The FPSO Sepetiba, the second platform for the Mero field development in the pre-salt Santos basin, has already been delivered to Petrobras, according to Offshore Magazine. It is designed to produce up to 180 tb/d of oil and 12 MMcm/d of gas. It is expected to begin production in the fourth quarter of this year. Crude oil output in Brazil is expected to be supported by the offshore start-ups announced at 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 4.2 mb/d. Crude oil output is expected to increase through production ramp-ups in the Buzios (Franco), Mero (Libra NW), Tupi (Lula), Peregrino and Itapu (Florim) fields. Oil project start-ups are anticipated at Atlanta, Pampo-Enchova Cluster and Vida.

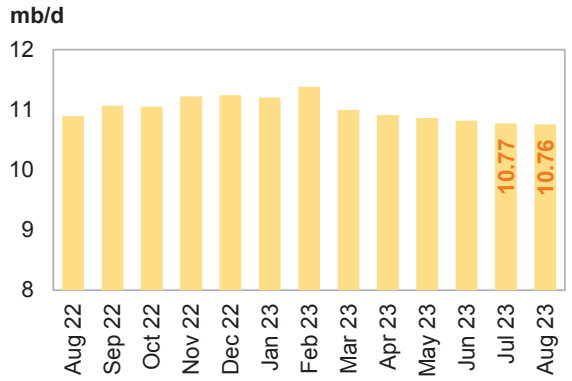
Russia

Russia's liquids production in August fell slightly by around 14 tb/d m-o-m to average 10.8 mb/d. This includes 9.5 mb/d of crude oil and 1.3 mb/d of NGLs and condensate.

For **2023**, Russian liquids production is forecast to drop by 0.5 mb/d to an average of 10.5 mb/d, revised up by around 80 tb/d from the previous month's assessment. It is worth noting that the expected contraction takes into account announced voluntary production adjustments to the end of 2023.

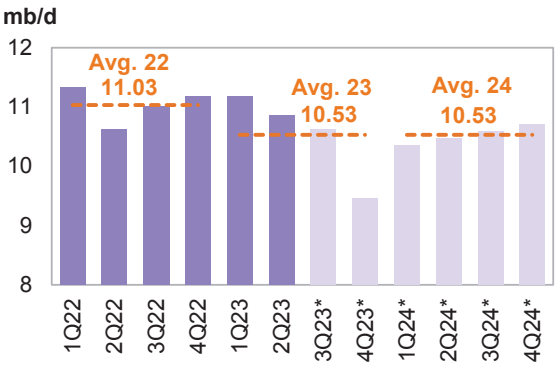
For **2024**, Russian liquids production is forecast to remain unchanged y-o-y to average 10.5 mb/d. In addition to project ramp-ups from several oil fields, there will be start-ups by Rosneft, Russneft, Lukoil, Gazprom, Neftisa and TenderResurs. However, overall additional liquids production is expected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

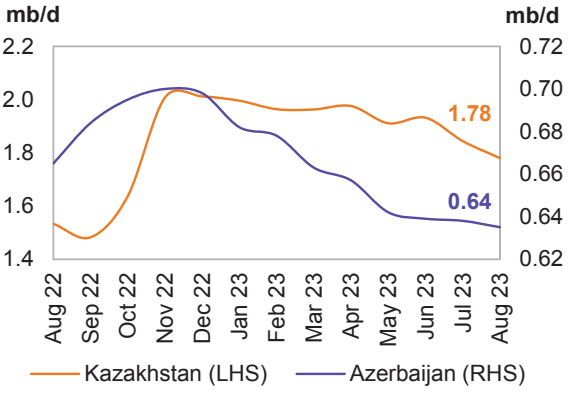
Kazakhstan & Azerbaijan

Liquids output in Kazakhstan fell by 64 tb/d m-o-m to an average of 1.8 mb/d in **August**. Crude production was down by 30 tb/d m-o-m to average 1.5 mb/d. At the same time, NGL and condensate output dropped by 34 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, revised down by 10 tb/d from the previous forecast.

Oil production in August was disrupted mainly due to scheduled maintenance at the Tengiz field. Additional maintenance is also estimated in September at the Karachaganak gas condensate field.

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 **August** remained broadly stable m-o-m, averaging 0.6 mb/d, which is a drop of 30 tb/d y-o-y. Crude production averaged 497 tb/d, with NGL output at 138 tb/d, according to official sources.

Azerbaijan's liquids supply for **2023** is forecast to drop by around 10 tb/d to average 0.7 mb/d. This is a downward revision of around 10 tb/d, due to lower-than-expected major oil field production in August. Declines in legacy reservoirs, like the Azeri-Chirag-Guneshli (ACG) oil fields, are expected to be primarily offset by ramp-ups in other fields this year.

Azerbaijan's liquids supply for **2024** is forecast to decline by around 10 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 is expected to be higher than the planned ramp-ups.

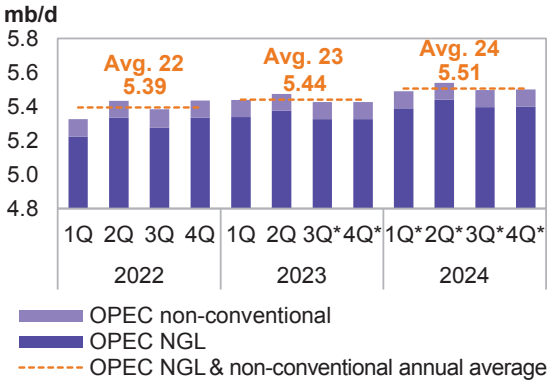
OPEC NGLs and non-conventional oils

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 forecast to remain unchanged at 0.1 mb/d.

Preliminary data shows NGL output in 3Q23 is expected to average 5.33 mb/d, while non-conventional output is forecast to remain steady at 0.1 mb/d. Taken together, 5.42 mb/d is expected for August, according to preliminary data.

The preliminary **2024** forecast indicates growth of 65 tb/d for 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 27.75 mb/d in September 2023, higher by 273 tb/d m-o-m. Crude oil output increased mainly in Nigeria, Saudi Arabia and Kuwait, while production in Venezuela and Equatorial Guinea decreased.

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

Secondary sources	2021	2022	1Q23	2Q23	3Q23	Jul 23	Aug 23	Sep 23	*Change* Sep/Aug
Algeria	913	1,017	1,013	979	952	959	940	957	*17*
Angola	1,122	1,140	1,061	1,106	1,137	1,170	1,123	1,119	*-4*
Congo	263	261	269	265	262	270	259	259	*0*
Equatorial Guinea	98	84	53	59	62	61	69	55	*-14*
Gabon	182	197	194	206	208	204	211	208	*-3*
IR Iran	2,392	2,554	2,572	2,698	2,990	2,872	3,043	3,058	*15*
Iraq	4,046	4,439	4,393	4,147	4,290	4,271	4,292	4,307	*15*
Kuwait	2,419	2,704	2,684	2,585	2,559	2,552	2,551	2,576	*25*
Libya	1,138	981	1,157	1,164	1,148	1,126	1,154	1,164	*10*
Nigeria	1,373	1,205	1,347	1,233	1,266	1,163	1,249	1,390	*141*
Saudi Arabia	9,114	10,531	10,358	10,149	8,993	9,050	8,924	9,006	*82*
UAE	2,727	3,066	3,045	2,941	2,910	2,896	2,911	2,924	*14*
Venezuela	554	683	696	734	752	765	758	733	*-25*
Total OPEC	**26,340**	**28,863**	**28,844**	**28,267**	**27,529**	**27,358**	**27,482**	**27,755**	***273***

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	1Q23	2Q23	3Q23	Jul 23	Aug 23	Sep 23	*Change* Sep/Aug
Algeria	911	1,020	1,011	971	951	955	939	960	*21*
Angola	1,124	1,137	1,046	1,098	1,131	1,149	1,129	1,113	*-16*
Congo	267	262	278	280	269	282	272	252	*-21*
Equatorial Guinea	93	81	51	59	58	62	56	55	*-1*
Gabon	181	191	201	203	..	193	..	..	..
IR Iran	..	..	..	..	..	..	..	..	..
Iraq	3,971	4,453	4,288	3,959	4,101	4,094	4,073	4,138	*65*
Kuwait	2,415	2,707	2,676	2,590	2,548	2,548	2,548	2,548	*0*
Libya	1,207	..	1,195	1,181	1,187	1,173	1,192	1,196	*4*
Nigeria	1,323	1,138	1,277	1,144	1,201	1,081	1,181	1,347	*165*
Saudi Arabia	9,125	10,591	10,456	10,124	..	9,013	8,918	..	..
UAE	2,718	3,064	3,041	2,941	2,904	2,894	2,896	2,924	*28*
Venezuela	636	716	731	808	797	810	820	762	*-58*
Total OPEC	..	..	..	..	..	..	..	..	..

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

Commercial Stock Movements

Preliminary August 2023 data sees total OECD commercial oil stocks down m-o-m by 11 mb. At 2,803 mb, they were 82 mb higher than the same time one year ago, but 117 mb lower than the latest five-year average and 182 mb below the 2015–2019 average. Within the components, crude stocks fell m-o-m by 26 mb, while products stocks rose by 15 mb.

OECD commercial crude stocks stood at 1,348 mb in August. This was 30 mb higher than the same time a year ago, but 43 mb below the latest five-year average and 99 mb lower than the 2015–2019 average. By contrast, total product inventories rose in August to stand at 1,455 mb. This is 51 mb above the same time a year ago, but 74 mb lower than the latest five-year average and 83 mb below the 2015–2019 average.

In terms of days of forward cover, OECD commercial stocks rose by 0.2 days m-o-m in August to stand at 61.6 days. This is 1.6 days above the August 2022 level, but 2.5 days lower than the latest five-year average and 2.0 days less than the 2015–2019 average.

Preliminary data for September 2023 showed that total US commercial oil stocks rose m-o-m by 16.5 mb to stand at 1,272 mb. This is 56.1 mb, or 4.6%, higher than the same month in 2022, but 20.2 mb, or 1.6%, below the latest five-year average. Crude stocks fell by 2.6 mb, while product stocks rose by 19.1 mb m-o-m.

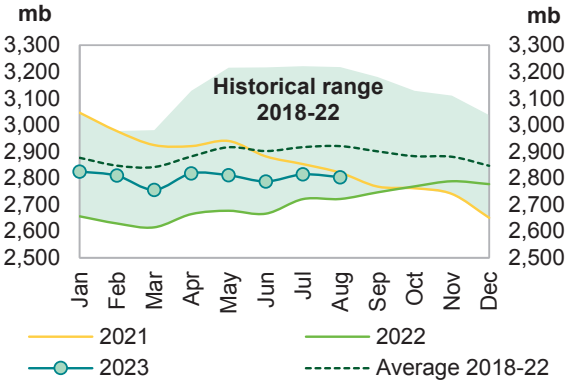
OECD

Preliminary **August 2023** data sees **total OECD commercial oil stocks** down m-o-m by 11 mb. At 2,803 mb, they were 82 mb higher than the same time one year ago, but 117 mb lower than the latest five-year average and 182 mb below the 2015–2019 average.

Within the components, crude stocks fell by 26 mb, m-o-m, while products stocks rose by 15 mb. Within OECD regions, total commercial oil stocks in August fell in OECD America, while they increased in OECD Europe and OECD Asia Pacific.

OECD commercial **crude stocks** stood at 1,348 mb in August. This was 30 mb higher than the same time a year ago, but 43 mb below the latest five-year average and 99 mb lower than the 2015–2019 average. M-o-m, OECD Americas and OECD Asia Pacific saw a crude stock draw of 23.1 mb and 7.7 mb, respectively, while stocks in OECD Europe rose by 4.9 mb.

Graph 9 - 1: OECD commercial oil stocks



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

By contrast**, total product inventories** rose by 15 mb in August to stand at 1,455 mb. This is 51 mb above the same time a year ago, but 74 mb lower than the latest five-year average and 83 mb below the 2015–2019 average. M-o-m, product stocks in OECD Americas and OECD Asia Pacific witnessed stock builds of 4.0 mb and 8.9 mb respectively, and OECD Europe product stocks also rose by 2.1 mb.

Table 9 - 1: OECD commercial stocks, mb

OECD stocks	Aug 22	Jun 23	Jul 23	Aug 23	Change Aug 23/Jul 23
Crude oil	1,318	1,373	1,374	1,348	*-26.0*
Products	1,404	1,414	1,440	1,455	*15.0*
Total	**2,722**	**2,788**	**2,814**	**2,803**	***-11.0***
Days of forward cover	**59.0**	**59.5**	**60.3**	**60.6**	***0.2***

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

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

In terms of **days of forward cover**, OECD commercial stocks rose by 0.2 days m-o-m in August to stand at 61.1 days. This is 1.6 days above the August 2022 level, but 2.5 days lower than the latest five-year average and 2.0 days less than the 2015–2019 average.

Within OECD regions, OECD Americas stood 2.9 days and OECD Europe 1.2 days below the latest five-year average, at 60.1 days and 69.4 days, respectively. OECD Asia-Pacific was 3.5 days below the latest five-year average, standing at 49.1 days.

OECD Americas

OECD Americas' total commercial stocks fell m-o-m by 19.2 mb in August to settle at 1,500 mb. This is 30 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 23.1 mb in August to stand at 729 mb, which is 6.4 mb lower than in August 2022 and 30.3 mb below the latest five-year average.

By contrast**, total product stocks** in OECD Americas increased m-o-m by 4.0 mb in August to stand at 772 mb. This is 37 mb higher than the same month in 2022, but 23 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 rose m-o-m by 7.0 mb in August to settle at 945 mb. This is 39 mb higher than the same month in 2022, but 32 mb below the latest five-year average.

OECD Europe's **commercial crude stocks** rose m-o-m by 4.9 mb to end August at 435 mb. This is 31 mb higher than one year ago and 10 mb above the latest five-year average. The build in crude oil inventories in August came on the back of lower crude runs in the EU-14, as well as the UK and Norway, which fell by around 230 tb/d m-o-m to stand at 9.4 mb/d.

Europe's **product stocks** rose m-o-m by 2.1 mb to end August at 511 mb. This is 8.0 mb above the same time a year ago, but 42 mb below the latest five-year average.

OECD Asia Pacific

OECD Asia Pacific's total commercial oil stocks rose m-o-m by 1.2 mb in August to stand at 358 mb. This is 12 mb higher than the same time a year ago, but 32 mb below the latest five-year average.

OECD Asia Pacific's **crude inventories** fell m-o-m by 7.7 mb to end August at 185 mb. This is 5 mb higher than one year ago, but 23 mb below the latest five-year average.

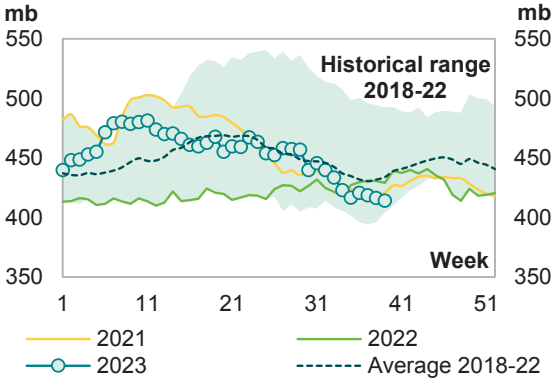
By contrast, OECD Asia Pacific's **product inventories** rose m-o-m by 8.9 mb to end August at 173 mb. This is 6 mb higher than one year ago, but 10 mb below the latest five-year average.

US

Preliminary data for **September 2023** showed that **total US commercial oil stocks** rose m-o-m by 16.5 mb to stand at 1,272 mb. This is 56.1 mb, or 4.6%, higher than the same month in 2022, but 20.2 mb, or 1.6%, below the latest five-year average. Crude stocks fell by 2.6 mb, while product stocks rose m-o-m by 19.1 mb.

US commercial **crude stocks** in September stood at 414.1 mb. This is 14.9 mb, or 3.5%, lower than the same month of 2022 and 23.8 mb, or 5.4%, less than the latest five-year average. The monthly drop in crude oil stocks came despite the 546 tb/d m-o-m decline in crude runs to a level of 16.61 mb/d.

Graph 9 - 2: US weekly commercial crude oil inventories



Sources: EIA and OPEC.

By contrast, **total product stocks** rose in September to stand at 857.6 mb. This is 71.1 mb, or 9.0%, higher than September 2022 levels and 3.6 mb, or 0.4%, higher than the latest five-year average. The product stock build can be attributed to lower product consumption.

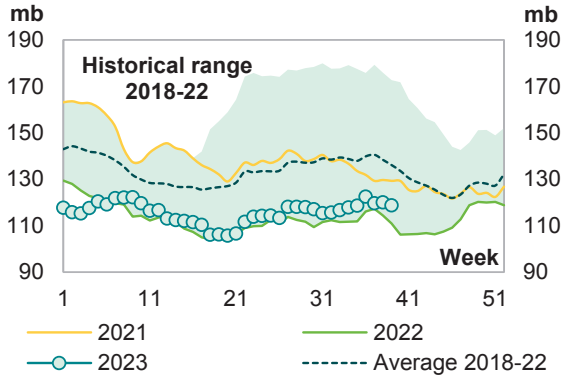
Gasoline stocks rose m-o-m by 12.2 mb in September to settle at 227 mb. This is 17.5 mb, or 8.3%, higher than the same month of 2022, but 0.2 mb, or 0.1%, below the latest five-year average.

Distillate stocks rose m-o-m by 0.2 mb in September to stand at 118.8 mb. This is 8.3 mb, or 7.5%, higher than the same month of 2022, but 18.0 mb, or 13.2%, below the latest five-year average.

Residual fuel oil stocks rose m-o-m by 1.2 mb in September. At 27.5 mb, this was 0.1 mb, or 0.4%, higher than a year earlier, but 1.7 mb, or 5.8%, below the latest five-year average.

Jet fuel stocks increased by 0.7 mb m-o-m, ending September at 42.7 mb. This is 6.1 mb, or 16.8%, higher than the same month in 2022 and 0.7 mb, or 1.7%, higher than the latest five-year average.

Graph 9 - 3: US weekly distillate inventories



Sources: EIA and OPEC.

Table 9 - 2: US commercial petroleum stocks, mb

US stocks	Sep 22	Jul 23	Aug 23	Sep 23	Change Sep 23/Aug 23
Crude oil	**429.0**	**439.8**	**416.6**	**414.1**	***-2.6***
Gasoline	209.5	222.1	214.7	227.0	*12.2*
Distillate fuel	110.5	120.2	118.6	118.8	*0.2*
Residual fuel oil	27.4	28.5	26.3	27.5	*1.2*
Jet fuel	36.5	42.7	42.0	42.7	*0.7*
Total products	**786.6**	**831.6**	**838.5**	**857.6**	***19.1***
Total	**1,215.6**	**1,271.4**	**1,255.2**	**1,271.7**	***16.5***
SPR	**416.4**	**347.5**	**350.3**	**351.3**	***0.9***

Sources: EIA and OPEC.

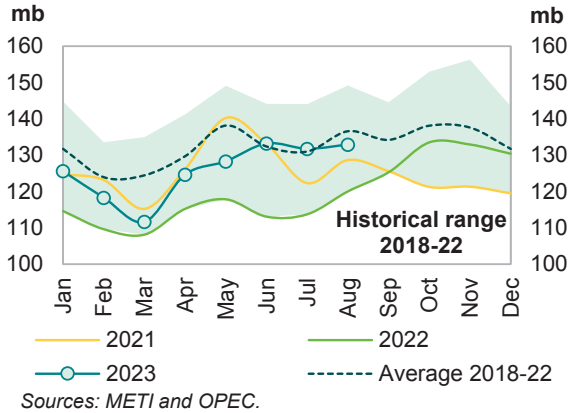
Japan

In **Japan**, **total commercial oil stocks** in **August** rose m-o-m by 1.2 mb to settle at 132.9 mb. This is 12.9 mb, or 10.7%, higher than the same month in 2022, but 3.7 mb, or 2.7%, below the latest five-year average. Crude stocks fell by 7.7 mb m-o-m, while product stocks rose by 8.9 mb.

Japanese **commercial crude oil stocks** fell m-o-m by 7.7 mb in August to stand at 69.7 mb. This is 5.5 mb, or 8.6%, higher than the same month of 2022, but 5.2 mb, or 6.9%, below the latest five-year average. The crude stock draw came on the back of higher crude runs, which increased m-o-m by 738 tb/d, or 30.9%, to stand at 3.13 mb/d in August.

Gasoline stocks rose m-o-m by 0.8 mb to stand at 9.7 mb in August. This is in line with a year earlier, but 0.7 mb, or 6.6%, lower than the latest five-year average. The build came on the back of higher domestic gasoline production, which increased m-o-m by 17.4%.

Graph 9 - 4: Japan's commercial oil stocks



Sources: METI and OPEC.

Distillate stocks rose m-o-m by 4.8 mb to end August at 28.7 mb. This is 2.1 mb, or 7.8%, above the same month of 2022, but 1.3 mb, or 4.3%, below the latest five-year average. Within distillate components, jet fuel, kerosene and gasoil stocks rose by 9.2%, 26.3% and 18.5%, respectively.

Total residual fuel oil stocks increased m-o-m by 1.7 mb to end August at 14.1 mb. This is 2.6 mb, or 22.8%, higher than the same month of 2022 and 1.8 mb, or 14.5%, above the latest five-year average. Within the components, fuel oil A and fuel oil BC stocks rose m-o-m by 10.7% and 15.5%, respectively.

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

Japan's stocks	Aug 22	Jun 23	Jul 23	Aug 23	Change Aug 23/Jul 23
Crude oil	64.2	77.8	77.5	69.7	-7.7
Gasoline	9.7	10.2	8.9	9.7	0.8
Naphtha	8.1	9.4	9.2	10.8	1.6
Middle distillates	26.6	23.2	23.8	28.7	4.8
Residual fuel oil	11.4	12.7	12.4	14.1	1.7
Total products	55.8	55.5	54.3	63.2	8.9
Total**	120.0	133.2	131.8	132.9	1.2

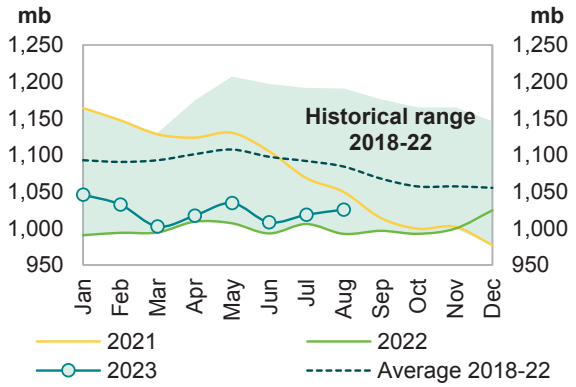
*Note: * At the end of the month. ** Includes crude oil and main products only.*
Sources: METI and OPEC.

EU-14 plus UK and Norway

Preliminary data for **August** showed that **total European commercial oil stocks** rose m-o-m by 7.0 mb to stand at 1,025 mb. At this level, they were 33.0 mb, or 3.3%, above the same month of 2022, but 58.8 mb, or 5.4%, lower than the latest five-year average. Crude and products stocks rose by 4.9 mb and 2.1 mb, respectively.

European **crude inventories** stood at 443.6 mb in August. This is 11.0 mb, or 2.5%, higher than the same month in 2022, but 21.1 mb, or 4.5%, below the latest five-year average. The August build in crude oil inventories can be attributed to lower refinery throughput in the EU-14, as well as the UK and Norway, which fell m-o-m by around 230 tb/d to stand at 9.4 mb/d.

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



Sources: Argus, Euroilstock and OPEC.

Total European product stocks rose m-o-m by 2.1 mb to end August at 581.8 mb. This is 22.0 mb, or 3.9%, higher than the same month of 2022, but 37.7 mb, or 6.1%, below the latest five-year average.

Gasoline stocks rose m-o-m by 0.9 mb in August to stand at 105.7 mb. At this level, they were 2.1 mb, or 2.0%, lower than the same time in 2022, and 1.5 mb, or 1.4%, below the latest five-year average.

Middle distillate stocks rose m-o-m by 2.7 mb in August to stand at 389.1 mb. This is 23.4 mb, or 6.4%, higher than the same month in 2022, but 32.5 mb, or 7.7%, lower than the latest five-year average.

By contrast, **residual fuel stocks** fell m-o-m by 1.0 mb in August to stand at 59.0 mb. This is 3.3 mb, or 5.9%, higher than the same month in 2022, but 4.1 mb, or 6.6%, below the latest five-year average.

Naphtha stocks fell by 0.5 mb in August, ending the month at 28.0 mb. This is 2.6 mb, or 8.4%, lower than the August 2022 level, but 0.4 mb, or 1.5%, higher than the latest five-year average.

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

EU stocks	Aug 22	Jun 23	Jul 23	Aug 23	Change Aug 23/Jul 23
Crude oil	432.6	437.8	438.7	443.6	4.9
Gasoline	107.9	101.9	104.8	105.7	0.9
Naphtha	30.5	27.7	28.5	28.0	-0.5
Middle distillates	365.7	382.2	386.4	389.1	2.7
Fuel oils	55.7	58.4	60.0	59.0	-1.0
Total products	559.8	570.3	579.7	581.8	2.1
Total	992.4	1,008.1	1,018.4	1,025.4	7.0

Sources: Argus, Euroilstock and OPEC.

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

Singapore

In **August**, **total product stocks in Singapore** fell m-o-m by 2.2 mb to stand at 41.0 mb. This is 5.7 mb, or 12.2%, lower than the same month in 2022 and 4.6 mb, or 10.0%, below the latest five-year average.

Light distillate stocks fell m-o-m by 0.6 mb in August to stand at 13.1 mb. This is 3.2 mb, or 19.6%, lower than the same month of 2022 and 0.5 mb, or 3.4%, less than the latest five-year average.

Residual fuel oil stocks fell m-o-m by 2.6 mb, ending August at 19.8 mb. This is 2.9 mb, or 12.8%, lower than August 2022, and 0.9 mb, or 4.5%, less than the latest five-year average.

By contrast, **middle distillate stocks** rose m-o-m by 1.0 mb in August to stand at 8.1 mb. This 0.4 mb, or 5.2%, higher than in August 2022, but 3.2 mb, or 28.2%, lower than the latest five-year average.

ARA

Total product stocks in ARA in August fell m-o-m by 3.3 mb. At 39.9 mb, they were 1.2 mb, or 2.9%, below the same month in 2022 and 2.9 mb, or 6.8%, lower than the latest five-year average.

Gasoline stocks in August rose m-o-m by 0.3 mb to stand at 11.5 mb. This is in line with the same month of 2022, but 2.6 mb, or 29.3%, higher than the latest five-year average.

By contrast, **gasoil stocks** fell m-o-m by 1.7 mb, ending August at 13.9 mb. This is 1.2 mb, or 9.5%, higher than in August 2022, but 3.4 mb, or 19.6%, less than the latest five-year average.

Fuel oil stocks dropped by 1.3 mb m-o-m in August to stand at 6.9 mb, which is 0.6 mb, or 7.8%, lower than in August 2022 and 0.5 mb, or 6.3%, below the latest five-year average.

Jet oil stocks fell m-o-m by 0.8 mb to stand at 5.1 mb. This is 0.7 mb, or 12.3%, lower than in August 2022, and 1.3 mb, or 20.5%, less than the latest five-year average.

Fujairah

During the week ending 2 October 2023, **total oil product stocks in Fujairah** rose w-o-w by 2.15 mb to stand at 18.57 mb, according to data from FEDCom and S&P Global Commodity Insights. At this level, total oil stocks were 6.3 mb lower than at the same time a year ago.

Light distillate stocks rose w-o-w by 0.57 mb to stand at 4.59 mb, which is 3.22 mb lower than a year ago.

Middle distillate stocks rose w-o-w by 0.12 mb to stand at 2.33 mb, which is 2.09 mb lower than the same time last year.

Heavy distillate stocks increased w-o-w by 1.47 mb to stand at 11.65 mb, which is 0.99 mb below 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 29.1 mb/d. This is around 0.7 mb/d higher than in 2022.

According to secondary sources, OPEC crude production averaged 28.8 mb/d in 1Q23, which is 0.4 mb/d higher than demand for OPEC crude. In 2Q23, OPEC crude production averaged 28.3 mb/d, which is in line with the demand for OPEC crude. In 3Q23, OPEC crude production averaged 27.5 mb/d, which is 1.4 mb/d lower than 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 29.9 mb/d, 0.8 mb/d higher than the estimated level in 2023.

Balance of supply and demand in 2023

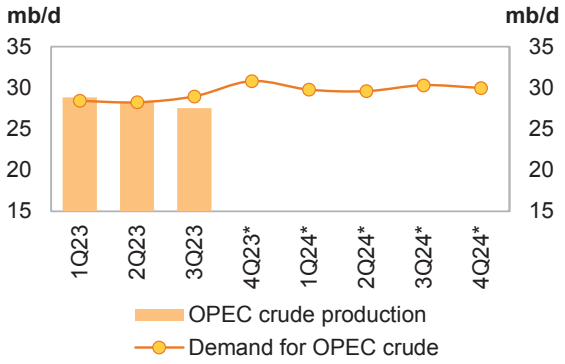
Demand for OPEC crude in 2023 was revised down by 0.1 mb/d from the previous assessment to stand at 29.1 mb/d. This is around 0.7 mb/d higher than in 2022.

Compared with the previous assessment, 1Q23 and 2Q23 were each revised down by 0.1 mb/d. The 3Q23 was revised down by 0.3 mb/d, while the 4Q23 revised up 0.1 mb/d.

Compared with the same quarters in 2022, demand for OPEC crude in 2Q23, 3Q23 and 4Q23 is estimated to be higher by 0.2 mb/d, 0.8 mb/d and 2.1 mb/d, respectively. Demand for OPEC crude in 1Q23 is estimated to be down by 0.3 mb/d.

According to secondary sources, OPEC crude production averaged 28.8 mb/d in 1Q23, which is 0.4 mb/d higher than demand for OPEC crude. In 2Q23, OPEC crude production averaged 28.3 mb/d, which is in line with demand for OPEC crude. In 3Q23, OPEC crude production averaged 27.5 mb/d, which is 1.4 mb/d lower than demand for OPEC crude.

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



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

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

	2022	1Q23	2Q23	3Q23	4Q23	2023	Change 2023/22
(a) World oil demand	**99.63**	**101.59**	**101.35**	**102.17**	**103.13**	**102.06**	***2.44***
Non-OPEC liquids production	65.81	67.72	67.61	67.77	66.88	67.49	*1.68*
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**	**73.15**	**73.09**	**73.20**	**72.31**	**72.93**	***1.73***
Difference (a-b)	**28.42**	**28.44**	**28.26**	**28.98**	**30.82**	**29.13**	***0.71***
OPEC crude oil production	**28.86**	**28.84**	**28.27**	**27.53**			
Balance	**0.44**	**0.41**	**0.01**	**-1.45**			

*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	24.84	24.52	25.15	25.32	24.87	24.97	24.71	25.33	25.52	25.03	25.15
of which US	*18.35*	*20.03*	*20.16*	*19.92*	*20.45*	*20.47*	*20.05*	*20.22*	*20.06*	*20.59*	*20.62*	*20.19*	*20.37*
Europe	12.41	13.19	13.51	13.11	13.48	13.85	13.37	13.45	13.17	13.53	13.92	13.41	13.51
Asia Pacific	7.16	7.34	7.38	7.81	6.96	7.16	7.65	7.39	7.84	6.98	7.19	7.65	7.41
Total OECD	**42.03**	**44.85**	**45.72**	**45.44**	**45.59**	**46.33**	**45.89**	**45.81**	**45.71**	**45.84**	**46.64**	**46.09**	**46.07**
China	13.94	15.10	14.95	15.73	16.06	16.07	16.21	16.02	16.30	16.52	16.69	16.88	16.60
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	9.06	9.34	9.48	9.03	9.18	9.26	9.60	9.73	9.39	9.54	9.57
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	4.59	4.24	4.43	4.88	4.54	4.70	4.42	4.60	5.01	4.69
Russia	3.39	3.62	3.70	3.83	3.59	3.74	4.01	3.79	3.89	3.70	3.89	4.08	3.89
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	0.79	0.77	0.75	0.83	0.79	0.81	0.78	0.77	0.84	0.80
Total Non-OECD	**49.16**	**52.38**	**53.90**	**56.15**	**55.76**	**55.85**	**57.24**	**56.25**	**57.90**	**57.68**	**58.22**	**59.14**	**58.24**
(a) Total world demand	**91.19**	**97.23**	**99.63**	**101.59**	**101.35**	**102.17**	**103.13**	**102.06**	**103.62**	**103.51**	**104.85**	**105.23**	**104.31**
Y-o-y change	***-9.15***	***6.04***	***2.40***	***1.94***	***2.94***	***2.75***	***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	28.15	28.59	28.52	28.29	28.76	28.79	29.26	29.57	29.10
of which US	*17.76*	*18.06*	*19.28*	*20.10*	*20.70*	*20.79*	*20.50*	*20.53*	*20.79*	*21.01*	*21.28*	*21.44*	*21.13*
Europe	3.92	3.79	3.58	3.69	3.65	3.59	3.74	3.67	3.87	3.76	3.70	3.85	3.79
Asia Pacific	0.52	0.51	0.48	0.45	0.45	0.46	0.47	0.46	0.47	0.44	0.45	0.43	0.44
Total OECD	**29.31**	**29.77**	**30.97**	**32.04**	**32.24**	**32.64**	**32.74**	**32.42**	**33.09**	**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	0.78	0.78	0.78	0.79	0.79	0.79	0.78	0.79
Other Asia	2.53	2.42	2.30	2.31	2.27	2.29	2.37	2.31	2.29	2.27	2.24	2.24	2.26
Latin America	6.02	5.96	6.34	6.69	6.77	6.99	6.88	6.83	7.00	7.07	7.20	7.28	7.14
Middle East	3.15	3.19	3.29	3.27	3.29	3.27	3.30	3.28	3.33	3.32	3.31	3.32	3.32
Africa	1.41	1.34	1.29	1.24	1.27	1.27	1.30	1.27	1.26	1.27	1.33	1.38	1.31
Russia	10.54	10.80	11.03	11.19	10.86	10.62	9.47	10.53	10.35	10.47	10.59	10.70	10.53
Other Eurasia	2.91	2.93	2.83	2.99	2.93	2.85	2.97	2.94	3.01	3.01	2.99	3.03	3.01
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**	**32.90**	**32.66**	**31.68**	**32.61**	**32.73**	**32.87**	**33.11**	**33.38**	**33.02**
Total Non-OPEC production	60.95	61.61	63.42	65.25	65.14	65.30	64.41	65.02	65.82	65.85	66.51	67.23	66.36
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**	**67.61**	**67.77**	**66.88**	**67.49**	**68.34**	**68.37**	**69.03**	**69.75**	**68.88**
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**	**73.15**	**73.09**	**73.20**	**72.31**	**72.93**	**73.83**	**73.91**	**74.53**	**75.25**	**74.38**
Y-o-y change	***-2.54***	***0.91***	***2.03***	***2.21***	***2.77***	***1.98***	***-0.03***	***1.73***	***0.68***	***0.83***	***1.33***	***2.94***	***1.45***
OPEC crude oil production (secondary sources)	25.72	26.34	28.86	28.84	28.27	27.53							
Total liquids production	94.00	95.52	100.07	102.00	101.35	100.73							
Balance (stock change and miscellaneous)	2.81	-1.71	0.44	0.41	0.01	-1.45							
OECD closing stock levels, *mb*													
Commercial	3,037	2,651	2,778	2,756	2,788								
SPR	1,541	1,484	1,214	1,217	1,206								
Total	**4,578**	**4,135**	**3,992**	**3,972**	**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	61	60	60								
SPR	34	32	26	27	26								
Total	**102**	**90**	**87**	**87**	**86**								
Memo items													
(a) - (b)	**22.91**	**28.05**	**28.42**	**28.44**	**28.26**	**28.98**	**30.82**	**29.13**	**29.78**	**29.60**	**30.33**	**29.99**	**29.93**

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

Source: OPEC.

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

Oil Market Report - October 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

- Evidence of demand destruction is appearing with preliminary September data showing that US gasoline consumption fell to two-decade lows. Buoyant demand growth in China, India and Brazil, nevertheless underpins an increase of 2.3 mb/d to 101.9 mb/d in 2023, of which China accounts for 77%. Growth slows to 900 kb/d in 2024, as efficiency gains and a deteriorating economic climate weigh on oil use.

- World oil output rose 270 kb/d in September to 101.6 mb/d, led by higher production from Nigeria and Kazakhstan. The Israel-Hamas conflict has not had any direct impact on oil flows. Driven by non-OPEC+ growth, global output will increase by 1.5 mb/d and 1.7 mb/d in 2023 and 2024, respectively, to new record highs. Overall OPEC+ output is set to decline in 2023, although Iran may rank as the world's second largest source of growth after the United States.

- Refinery margins fell sharply from near-record levels over the course of September and into October, as gasoline and fuel oil cracks collapsed, but overall remained above the seasonal average. Global refinery throughput rates reached a summer peak of 83.6 mb/d in August, underpinned by record Chinese runs. Refinery crude runs are expected to rise by 1.7 mb/d in 2023 and by 1 mb/d next year.

- Global observed oil inventories tumbled by 63.9 mb in August, led by a massive 102.3 mb draw in crude oil stocks. Preliminary data suggest that on land inventories continued to draw in September, while oil on water rebounded as exports recovered. OECD industry stocks fell counter-seasonally by 6.5 mb in August to 2 816 mb, a substantial 105.3 mb below the five-year average.

- Russian oil export revenues surged by $1.8 bn to $18.8 bn in September, their highest since July 2022. Total oil exports rose by 460 kb/d to 7.6 mb/d, with crude oil accounting for 250 kb/d of the increase. The weighted average crude export price rose by $8/bbl to $81.80/bbl, narrowing its discount to North Sea Dated to $12.20/bbl, its lowest since March 2022.

- ICE Brent crude oil futures rose by $4/bbl after Hamas attacked Israel on 7 October as traders reassessed geopolitical risks. Tightening balances following Saudi Arabia's extension of voluntary supply cuts had sent prices up by $8/bbl in September. However, gains subsequently dissipated in early October as renewed macro concerns took hold. At the time of writing, Brent traded at $87/bbl.

Escalating risks

A sharp escalation in geopolitical risk in the Middle East, a region accounting for more than one-third of the world's seaborne oil trade, has markets on edge. The surprise attack by Hamas on Israel on 7 October spurred traders to price in a $3-4/bbl risk premium when markets opened. Prices have since stabilised, with benchmark Brent futures trading at around $87/bbl at the time of writing. While there has been no direct impact on physical supply, markets will remain on tenterhooks as the crisis unfolds.

Oil prices had already surged to almost $98/bbl in mid-September after Saudi Arabia and Russia extended their voluntary production cuts through year-end and as crude oil and distillate inventories drew to exceptionally low levels. Rising prices focused the market's attention on the prospect that 'higher for longer' interest rates could slow economic and demand growth. By early October, Brent futures tumbled by more than $12/bbl to $84/bbl as supply fears gave way to deteriorating macroeconomic indicators and signs of demand destruction in the United States, where gasoline deliveries plunged to two-decade lows. Demand destruction has hit emerging markets even harder, as currency effects and the removal of subsidies have amplified the rise in fuel prices. However, growth continues apace in China, India and Brazil, underpinning forecast global oil demand gains for this year at around 2.3 mb/d, of which China accounts for 77%. Global oil demand growth is set to slow to 900 kb/d in 2024 as the post-Covid rebound runs out of steam while the economic expansion slows and energy efficiency improvements weigh on oil use.

Global supply growth this year and next, of 1.5 mb/d and 1.7 mb/d, respectively, is dominated by non-OPEC+ producers. As for the OPEC+ bloc, the supply story this year is one of contraction, although Iran is on course to rank as the world's second biggest source of growth after the United States. Voluntary cuts are expected to keep the oil market in deficit as OPEC+ could pump 1.3 mb/d below the call on its crude in 4Q23. If extra cuts are unwound in January, the balance could shift to surplus, which would go some way to help replenish depleted inventories. Observed global oil stocks tumbled by 63.9 mb in August, with crude oil down by a massive 102.3 mb.

Middle distillate markets are tight heading into the Northern Hemisphere winter. Ten months after the EU embargo on Russian crude came into effect, European refiners still struggle to lift processing rates and diesel output. Sustained high gasoil imports will be required, but stringent winter quality specifications constrain the available supply pool. It may take another mild winter to avoid shortages.

The Middle East conflict is fraught with uncertainty and events are fast developing. Against a backdrop of tightly balanced oil markets anticipated by the IEA for some time, the international community will remain laser focused on risks to the region's oil flows. The IEA will continue to monitor the oil market closely and, as ever, stands ready to act if necessary to ensure markets remain adequately supplied.

OPEC+ crude oil production[1]

million barrels per day

	Aug 2023 Supply	Sep 2023 Supply	Sep Prod vs Target	Sep-2023 Target	Sustainable Capacity[2]	Eff Spare Cap vs Sep[3]
Algeria	0.93	0.95	-0.01	0.96	1.0	0.05
Angola	1.13	1.11	-0.34	1.46	1.11	-0.0
Congo	0.27	0.25	-0.06	0.31	0.27	0.02
Equatorial Guinea	0.06	0.05	-0.07	0.12	0.06	0.01
Gabon	0.22	0.22	0.05	0.17	0.21	-0.01
Iraq	4.32	4.34	0.12	4.22	4.75	0.41
Kuwait	2.58	2.59	0.04	2.55	2.83	0.24
Nigeria	1.18	1.35	-0.39	1.74	1.34	-0.01
Saudi Arabia	8.96	9.03	0.05	8.98	12.16	3.13
UAE	3.22	3.25	0.38	2.88	4.2	0.95
Total OPEC-10	**22.87**	**23.14**	**-0.24**	**23.38**	**27.94**	**4.82**
Iran[4]	3.14	3.14			3.8	
Libya[4]	1.16	1.15			1.22	0.07
Venezuela[4]	0.8	0.78			0.8	0.02
Total OPEC	**27.97**	**28.21**			**33.76**	**4.91**
Azerbaijan	0.5	0.49	-0.19	0.68	0.54	0.05
Kazakhstan	1.45	1.58	0.03	1.55	1.67	0.09
Mexico[5]	1.67	1.69			1.68	-0.01
Oman	0.8	0.8	0	0.8	0.85	0.05
Russia	9.47	9.48	0.03	9.45	9.98	
Others [6]	0.84	0.88	-0.18	1.06	0.87	0.03
Total Non-OPEC	**14.72**	**14.93**	**-0.3**	**13.54**	**15.58**	**0.21**
OPEC+ 19 in cut deal[4]	**35.93**	**36.38**	**-0.54**	**36.92**	**41.84**	**5.04**
Total OPEC+	**42.69**	**43.14**			**49.34**	**5.12**

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)

2023-10-12 08:00:00.2 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	103.9	103.5	102.2	101.3	102.6	102.7	101.8	100.4	102.7	101.9
Total OECD	45.7	45.7	45.1	45.2	46.0	46.1	45.7	45.4	45.4	45.8
Americas	24.7	25.0	24.8	24.4	25.0	25.2	25.2	24.5	24.7	25.0
Europe	13.3	13.5	13.4	13.1	13.4	13.8	13.5	13.1	13.3	13.5
Asia Oceania	7.7	7.2	7.0	7.7	7.6	7.1	7.0	7.8	7.4	7.4
Non-OECD countries	58.2	57.7	57.0	56.2	56.5	56.6	56.0	55.0	57.3	56.0
FSU	5.0	5.0	4.8	4.9	5.0	5.1	4.9	4.9	4.9	4.9
Europe	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
China	17.2	17.2	17.0	16.6	16.6	16.7	16.6	15.6	17.0	16.4
Other Asia	15.3	14.4	14.6	14.6	14.7	14.1	14.4	14.4	14.7	14.4
Americas	6.5	6.5	6.4	6.2	6.4	6.5	6.3	6.2	6.4	6.3
Middle East	9.0	9.4	9.1	8.9	8.8	9.3	8.9	8.8	9.1	8.9
Africa	4.5	4.4	4.4	4.3	4.2	4.1	4.2	4.3	4.4	4.2
	Supply									
Total Supply	n/a	n/a	n/a	n/a	n/a	101.4	101.9	101.9	n/a	n/a
Non-OPEC	69.0	69.2	68.8	68.0	67.8	67.8	67.5	67.0	68.8	67.5
Total OECD	31.5	31.5	31.3	31.1	31.0	30.8	30.6	30.4	31.3	30.7
Americas	27.9	27.8	27.6	27.3	27.4	27.2	26.8	26.7	27.7	27.0
Europe	3.2	3.1	3.2	3.3	3.1	3.1	3.3	3.3	3.2	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	31.7	31.7	31.3	31.1	31.3	31.6	31.7	31.3
FSU	13.8	13.6	13.7	13.7	13.7	13.6	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	2.6	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	33.6	34.4	34.9	n/a	n/a
Crude	n/a	n/a	n/a	n/a	n/a	28.0	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 *	29.3	28.6	27.7	27.7	29.2	29.3	28.7	27.9	28.3	28.8

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

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

SOURCE: International Energy Agency

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IEA: September Crude Oil Production in OPEC Countries (Table)
2023-10-12 08:00:00.0 GMT
By Kristian Siedenburg
(Bloomberg) -- Following is a summary of oil production in OPEC countries from the International Energy Agency in Paris:

	Sept. 2023	Aug. 2023	Sept. MoM
Total OPEC	28.21	27.97	0.24
Total OPEC10	23.14	22.87	0.27
Algeria	0.95	0.93	0.02
Angola	1.11	1.13	-0.02
Congo	0.25	0.27	-0.02
Equatorial Guinea	0.05	0.06	-0.01
Gabon	0.22	0.22	0.00
Iraq	4.34	4.32	0.02
Kuwait	2.59	2.58	0.01
Nigeria	1.35	1.18	0.17
Saudi Arabia	9.03	8.96	0.07
UAE	3.25	3.22	0.03
Iran	3.14	3.14	0.00
Libya	1.15	1.16	-0.01
Venezuela	0.78	0.80	-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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IEA REPORT WRAP: Demand Destruction; Russian Revenue; Diesel
2023-10-12 09:30:10.899 GMT
By Sherry Su
(Bloomberg) -- Summary of stories from IEA's monthly Oil Market Report:
* Oil Price Pullback Reflects Demand Destruction, IEA Says
* Europe Only OECD Region With 2023 Oil Demand Contraction

* Russian Oil Revenue Rises to 14-Month High on Prices and Exports
* West African Prices Gain on Competition for Light-Sweet Oil
* IEA Cuts 4Q Crude Runs Forecast on Slow Mideast Refinery Starts
* European Diesel Market Could Tighten Further Into 2024
* Heating Oil Demand Will Rise If Winter Is Back to Normal
* OPEC Crude Output Rises 240k B/D on Gains in Nigeria, IEA Says
** 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

2023-10-12 08:00:00.3 GMT
By Kristian Siedenburg

(Bloomberg) -- World oil demand 2024 forecast was revised to 102.7m b/d from 102.8m b/d in Paris-based Intl Energy Agency's latest monthly report.
* 2023 world demand was revised to 101.9 from 101.8m b/d
* Demand change in 2024 est. 0.9% y/y or 0.9m b/d
* Non-OPEC supply 2024 was unrevised at 68.8m b/d
* Call on OPEC crude 2024 was revised to 28.3m b/d from 28.4m b/d
* Call on OPEC crude 2023 was revised to 28.8 m b/d from 28.7m b/d
** OPEC crude production in Sept. rose by 240k b/d on the month to 28.21m b/d
* Detailed table: FIFW NSN S2ELFBGENSW0 <GO>
* NOTE: Fcasts based off IEA's table providing one decimal point

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OPEC Crude Output Rises 240k B/D on Gains in Nigeria, IEA Says
2023-10-12 08:00:00.4 GMT
By Amanda Jordan
(Bloomberg) -- OPEC's September crude output climbed 240k b/d from a month earlier to 28.21m b/d, led by gains in Nigeria, the IEA said in its monthly market report.
* Nigerian flows rose by 170k b/d to 1.35m b/d, the highest since January 2022
* Elsewhere in Africa, Angolan supply slid to 1.11m b/d, Algerian production inched up to 950k b/d and Libyan volumes slipped to 1.15m b/d
* Saudi supply advanced 70k b/d to 9.03m b/d
* Kuwaiti output edged up to 2.59m b/d; UAE flows rose 30k b/d to 3.25m b/d; Iraqi production increased to 4.34m b/d
* Iranian supply held steady at 3.14m b/d, a five-year high
* Venezuelan output dropped 20k b/d to 780k b/d
* NOTE: OPEC will release its own production estimates for September later Thursday

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Oil Price Pullback Reflects Demand Destruction, IEA Says
2023-10-12 08:00:00.6 GMT
By Grant Smith
(Bloomberg) -- Oil's retreat from almost $100 a barrel shows that prices climbed high enough to start eroding demand in the US and elsewhere, according to the International Energy Agency.
"Supply fears gave way to deteriorating macroeconomic indicators and signs of demand destruction in the United States, where gasoline deliveries plunged to two-decade lows," the IEA said in its monthly market report. "Demand destruction has hit emerging markets even harder, as currency effects and the removal of subsidies have amplified the rise in fuel prices."
International crude benchmark Brent rallied to a 10-month high above $97 a barrel in late September, as Saudi Arabia and Russia squeezed supplies while global fuel consumption held near record levels. It has since retreated 12% amid concern "that

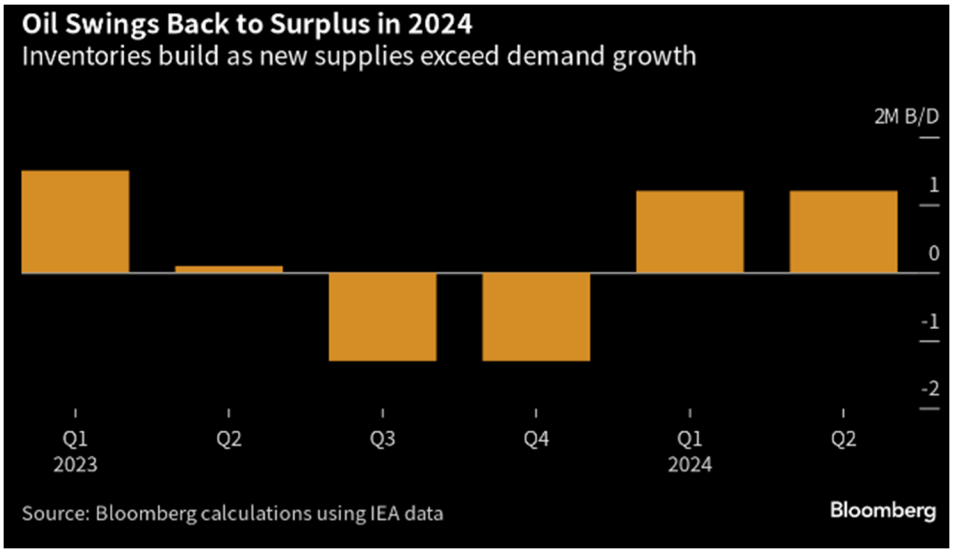
‘higher for longer’ interest rates could slow economic and demand growth,” said the Paris-based agency, which advises major economies.

Crude prices jumped on Monday as last weekend’s attack by Hamas on Israel sparked fears of a wider conflict with Iran, a major oil producer and key backer of the militant group. The commodity has subsided again, trading near $86 a barrel in London on Thursday.

“While there has been no direct impact on physical supply, markets will remain on tenterhooks,” the IEA said. The agency, which can oversee the release of emergency oil stockpiles, said it “stands ready to act if necessary to ensure markets remain adequately supplied.”

For more stories on the Israel-Hamas war, click here.

Despite the initial signs of demand erosion, world fuel consumption remains on track to rise by 2.3 million barrels a day this year to a record 101.9 million barrels a day, driven by China. Inventories are set to drain sharply this quarter, with crude stocks having drawn down by a “massive” 102 million barrels in August to the lowest since 2017, according to the report.



Next year the global market will flip from deficit back into supply surplus, assuming that the Saudis and Russia unwind their latest production cutbacks. The OPEC+ leaders reaffirmed their close cooperation in the oil market on Thursday with a public show of unity at a major industry event in Moscow.

Demand growth will slump by more than 50% to just under 1 million barrels a day in 2024 amid improved fuel efficiency and the growing popularity of electric vehicles, the IEA predicts. That will be more than satisfied by rising supplies outside the OPEC+ alliance, which will increase by 1.7 million barrels a day.

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Europe Only OECD Region With 2023 Oil Demand Contraction: IEA
2023-10-12 08:00:00.31 GMT
By Jack Wittels
(Bloomberg) -- Europe is the only OECD region seeing a 2023 drop in oil demand, the IEA said in its monthly Oil Market Report.
* Demand loss of 50k b/d y/y is due to "chronically underperforming economies in the grips of stagnant manufacturing and trade"
** Europe is "on the brink of recession"
** German oil demand seen down 90k b/d this year
* Europe's dismal economic outlook set to depress oil demand well into next year
** "In 2024, a decline of 150k b/d will be more evenly spread, with Germany, France and Italy each declining by about 20k b/d"
** "On a product basis, gasoil will be the main pressure on demand, falling by about 150k b/d in each year"
* Overall OECD oil demand fell by 120k b/d in 3Q
** That's 90k b/d below last month's forecast, largely due to "the deepening petrochemical slump that depressed naphtha deliveries in Europe and Asia"

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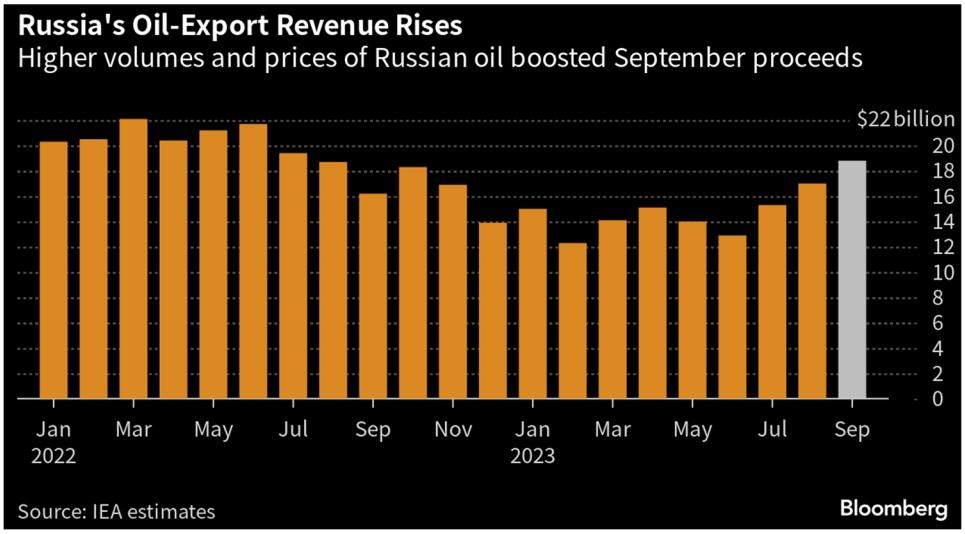
Russian Oil Revenue Rises to 14-Month High on Prices and Exports
2023-10-12 08:00:00.28 GMT
By Bloomberg News
(Bloomberg) -- Russia's oil-export revenue rose to a 14-month high in September as volumes increased and the nation

continued to sell its crude above the G-7 price cap, according to the International Energy Agency.

The nation received $18.8 billion last month from overseas supplies of crude oil and petroleum products, $1.8 billion more than in August, the agency said in its monthly report.

Oil-money flows are a key source of revenue for the Russian budget, which is under mounting pressure due to massive spending on the war in Ukraine and the need to maintain social expenditure ahead of presidential elections in March.

Western countries and their allies have imposed several waves of energy sanctions against Russia — including a price threshold of $60 a barrel for the nation's crude — in a bid to curb the flows and limit the Kremlin's ability to fund its military activities.



In September, the weighted average export price for Russian barrels rose to $81.78, narrowing its discount to benchmark Brent to $12.18, the IEA said, citing Argus Media and Kpler assessments. That's the lowest monthly average discount since March 2022, according to the IEA.

Discounted product prices also progressed over the month to average $60.20 a barrel, well above the $45 price cap, according to the IEA. Average premium products price rose to $98.94 a barrel, slightly below the $100 threshold, amid Russia's temporary ban on diesel exports to curb surging domestic prices at home.

READ: Russia Lifts Diesel-Export Ban That Battered Global Markets

September rise in Russia's exports revenues also reflect higher overseas supplies. Crude shipment to foreign markets rose by an estimated 250,000 barrels a day from August, while products supplies increased by 220,000 barrels a day, mainly due to higher fuel oil supplies, the IEA said.

Russia pledged to curb its crude exports by 300,000 barrels

a day from an average for May-June and maintain the cuts through the end of the year, in a coordinated move with Saudi Arabia.
Still, preliminary estimates show daily overseas crude supplies were down around 100,000 barrels from the baseline at 4.9 million barrels, according to the IEA.
The nation's crude output crept up to 9.48 million barrels a day in September, the IEA said. That's 469,000 barrels a day lower than February, the baseline for Russia's output curbs of 500,000 barrels a day in response to Western sanctions.

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West African Prices Gain on Competition for Light-Sweet Oil: IEA
2023-10-12 08:00:00.32 GMT
By Bill Lehane
(Bloomberg) -- West African crude differentials strengthened against North Sea Dated last month as competition from both Asian and European refiners drove up premiums for light-sweet grades, the IEA said in its monthly oil market report.
* That shows the limited availability of alternative crude oil grades within the Atlantic Basin and globally, the IEA said
* Also says delivered discounts on Russian barrels versus Dubai have narrowed and "India's interest is shifting at the margin toward African and Mediterranean grades"
* Change in differentials:
** Forcados jumped by $1.61 month-on-month to a premium of $4.11/bbl vs Dated
** Brass River +89c to +$2.84/bbl
** Qua Iboe +16c to $3.52/bbl
** Bonny Light +34c to $2.76/bbl
** Girassol +61c to $3.50/bbl
** Cabinda +5c/bbl to $2.50/bbl

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IEA Cuts 4Q Crude Runs Forecast on Slow Mideast Refinery Starts
2023-10-12 08:00:00.30 GMT
By Rachel Graham
(Bloomberg) -- The IEA cut its forecast for crude runs in 4Q in its monthly Oil Market Report.
* "Projected 4Q runs are lowered due to expectations of a slower ramp-up to full capacity at Oman's Duqm refinery, heavier refinery maintenance projections in the Middle East and a more cautious view on processing rates at Kuwait's Al Zour refinery"
* In 4Q, global crude throughput forecast at 82.7m b/d, rising to 83.4m b/d in 2024
* Refining profitability remains above seasonal average levels, due to strong jet and diesel cracks; margins have dropped from near-record levels in August, led by gasoline and fuel oil
* Next year's higher crude runs could be driven by two new refineries; Oman's 230k b/d Duqm project is undergoing commissioning and Nigeria's 650k b/d Dangote plant is likely in 2024, but there are no signs of starting up yet

--With assistance from Bill Lehane.
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European Diesel Market Could Tighten Further Into 2024: IEA
2023-10-12 08:00:00.7 GMT
By Rachel Graham
(Bloomberg) -- The European diesel market could tighten through the start of 2024, partly as refiners struggle to meet demand, the IEA said in its monthly Oil Market Report.
* Stocks covered 33 days of forward demand at the end of July, 10% below the five-year seasonal average and at the bottom of the historical range before Russia's invasion of Ukraine
* Despite near record middle distillate cracks in recent months, European crude throughput remains well below historical averages
* "Crude and feedstock constraints are contributing to the

sustained decline in activity levels”
* OECD Europe is also not pulling in more supply from other regions, excluding Turkey which is not subject to EU restrictions on Russian imports
** Imports are trailing the five-year average
* “If reports that some Middle East refineries face challenges in meeting the winter quality specification prove accurate, then maintaining even this level of imports through the winter season may prove difficult”
* READ: Sept. 17, The World Is Struggling to Make Enough Diesel

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Heating Oil Demand Will Rise If Winter Is Back to Normal: IEA
2023-10-12 08:00:00.33 GMT
By Sherry Su
(Bloomberg) -- Demand for oils used for heating in Europe, North America and Northeast Asia will rise this winter if temperatures return to more normal levels for the season, the IEA said in its monthly Oil Market Report.
* During the last Northern Hemisphere winter, many countries — particularly in Europe — had unusually mild weather
** Regional demand for gasoil declined by 140k b/d y/y, helping to alleviate a tight market following Russia’s invasion of Ukraine
* If heating degree days, or HDDs, return to the five-year average — the IEA’s base case — underlying European heating demand across all oil products will be about 70k b/d higher than last year
** US requirements seen increasing by 35k b/d
* If HDDs are at the level of the 10-year average, the potential upside case for the US (+15k b/d) is more limited than Europe (+50k b/d) or Japan (+70k b/d)

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Saudi Budget's Oil Needs Make Another Leap in Fresh IMF Snapshot
2023-10-12 09:37:08.555 GMT

By Abeer Abu Omar
(Bloomberg) -- The International Monetary Fund said Saudi Arabia needs a much higher oil price to fund the government's burgeoning spending commitments than previously forecast, a view that explains why the kingdom can't afford to let go of the crude output curbs that are inflicting pain on consumers worldwide.

Using a measure of fiscal resilience known as oil breakeven prices, the fund's latest projections published on Thursday showed Saudi Arabia would need crude close to $86 per barrel to balance its budget, an increase of nearly $5 from the IMF's estimates in May.

Saudi Arabia increasingly stands out among a group of the Middle Eastern energy producers tracked by the IMF, most of which either need lower oil prices to balance their books or have seen their breakeven estimates reduced sharply this year.

IMF's Breakeven Oil Price Estimates for 2023

Country	Latest estimate	May 2023 estimate
Saudi Arabia	$85.8	$80.9
UAE	$56	$55.6
Oman	$54.3	$72.2
Bahrain	$108.3	$126.2
Qatar	$45.5	$44.8
Kuwait	$68.2	$70.7
Iraq	$97.7	$75.8
Iran	$307.4	$351.7
Algeria	$118.3	$112.4

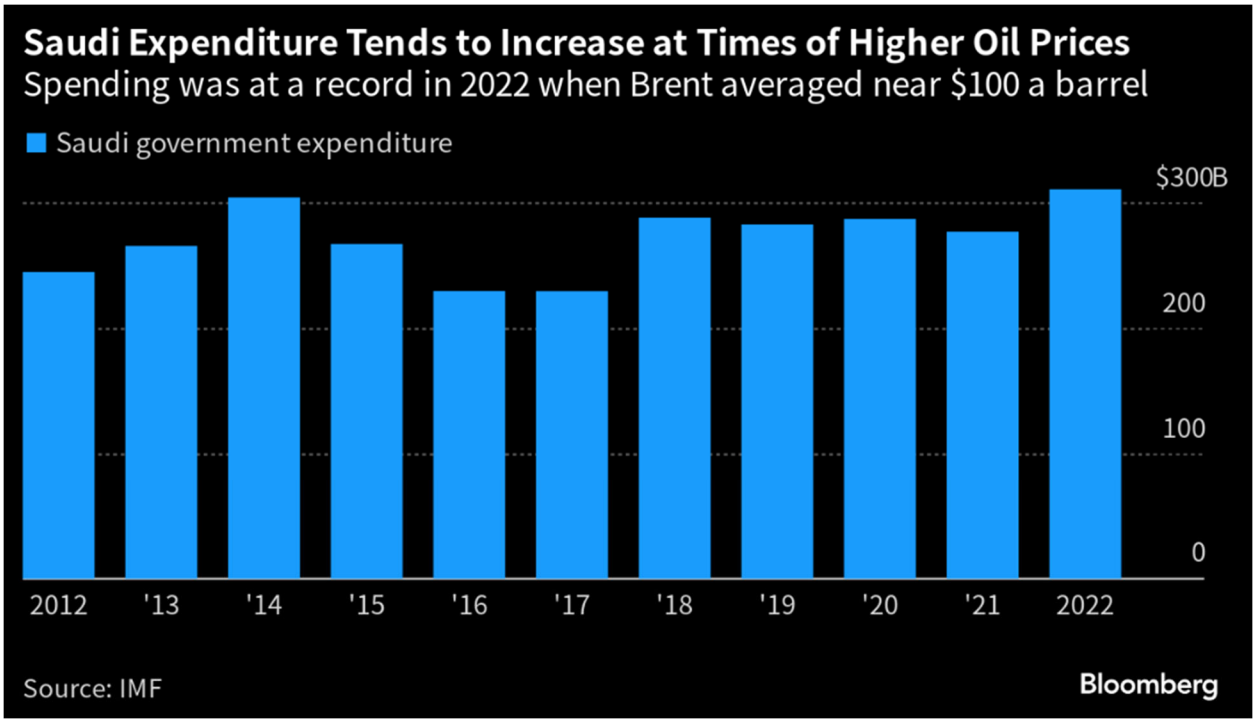
For Saudi Arabia, the IMF's assessment means oil prices are now barely enough and at their current level would put even more pressure on a budget that the government already expects to run a deficit until 2026.

It's the second time this year that the IMF has revised upwards its estimate of the oil price Saudi Arabia needs to avoid a deficit.

Given the kingdom's shift to more generous spending this year, Bloomberg Economics estimates Saudi Arabia requires crude at $91 to keep public finances in balance during the second half, an increase of $10 from the first six months.

International benchmark Brent was little changed at around

$86 on Thursday. Earlier in the day, oil erased all of this week's surge that followed Hamas' attack on Israel.



The Saudi budget's growing oil appetite is putting it on a collision course with some of the world's biggest consumers of the fuel. Indian Oil Minister Hardeep Puri told Bloomberg TV on Tuesday that oil prices need to fall to levels of around $80 to be good for the economy.

In its recent pre-budget statement, the Saudi Finance Ministry outlined plans to boost expenditure as part of Crown Prince Mohammed bin Salman's program to transform the economy. The latest blueprint now assumes fiscal shortfalls this year and until at least 2026, a change from plans to keep the budget in the black for years to come.

Read: Saudi Budget's Back to Old Ways as Oil Habit Proves Hard to Kick

Despite some headway in diversifying the economy, energy still provides the bulk of the Saudi government revenue. The upshot is that higher oil needs could determine the kingdom's willingness to stick with policies in support of crude prices for longer.

Saudi Arabia, a leader of the OPEC+ alliance alongside Russia, this week reaffirmed it will stick with oil supply curbs until the end of the year. The production cuts have been costly, and economists at institutions including the World Bank estimate the kingdom's gross domestic product will shrink this year as a result.

By contrast, the IMF still expects modest growth at 0.8% "because of the good performance of the non-oil sector this year," said Jihad Azour, the IMF's director for the Middle East, North Africa and Central Asia.

The IMF also sees economies across the Middle East and

North Africa expanding at a slower pace of 2%, down from its previous forecast of 3.1%.

“The extension of the OPEC+ additional cut and the voluntary cut that was made this year brought the growth for the oil GDP further down” in Saudi Arabia, Azour said. “We expect non-oil growth of more than 5% this year. Therefore, this has compensated for the drop in oil production and its impact on the oil GDP.”

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https://www.mof.gov.sa/en/mediacenter/News/Pages/News_30092023.aspx

Saudi Ministry of Finance Announces Pre-Budget Statement for Fiscal Year 2024, Expenditures Estimated at SAR 1,251 billion and Revenues at SAR 1,172 billion.

9/30/2023

Today, September 30 2023, the Ministry of Finance announced its pre-budget statement for FY 2024, saying that it estimates total expenditures will reach SAR 1,251 billion, and total revenues SAR 1,172 billion. The Ministry also estimates that a modest deficit will be recorded at about 1.9% of the Gross Domestic Product (GDP), with continued efforts to increase the efficiency of spending and fiscal consolidation, strengthen fiscal sustainability, and implement economic and fiscal reforms.

These efforts are aligned with the pursuit of economic and fiscal reforms, as well as the objectives of Saudi Vision 2030, which include its significant programs, initiatives, and projects. Furthermore, the aim is to stimulate domestic investment growth by enabling the private sector and facilitating its contribution across the Kingdom. Continued efforts will be made to enhance the level of services provided to citizens and residents.

The pre-budget statement for FY 2024 reflects the proactive structural and fiscal reforms that the Kingdom has taken to enhance its economy's ability to face economic developments and challenges, resulting in the positive performance of economic indicators, which has led to GDP growth at a continuous rate, the expansion and performance of the non-oil sector, and the increase of labor force.

The Kingdom continues to support social protection programs and shows continued progress toward the objectives of the Fiscal Sustainability Program. These objectives were achieved by directing expansionary spending to accelerate the implementation of major programs, projects, and sectoral and regional strategies, in order to contribute toward GDP growth, attract investments, and stimulate the local economy.

These measures were supported by continued efforts to develop fiscal performance through the increase of fiscal space and government reserves, in a way that enhances the ability of the Kingdom's economy to respond to and face global financial shocks. The fiscal measures also help Saudi Arabia to maintain sustainable levels of public debt, thus enabling the Kingdom to overcome any challenges that may occur in the future, while promoting growth and strengthening the national funds' capital.

His Excellency the Saudi Minister of Finance Mr. Mohammed bin Abdullah AlJadaan said that the government will continue implementing fiscal and economic structural reforms to help develop and diversify the Saudi economy, and to increase economic growth while maintaining fiscal sustainability, which will be achieved by continued implementation of Saudi Vision 2030 initiatives and strategies. Saudi Vision 2030 will help to develop promising economic sectors, enhance investment attractions, stimulate industrial growth, and raise the percentage of local content and Saudi non-oil exports. The Minister also highlighted the important role of the Public Investment Fund and development funds, in addition to the continued implementation of structural reforms that enhance the growth of non-oil GDP at high and sustainable rates in the medium-term.

The Minister added that the process of analyzing the fiscal and economic risks that face the Kingdom are an essential part of understanding current state challenges. Analyzing these risks also contributes to adopting effective fiscal policies and strategies to mitigate them. He also added that, despite the crises the world is facing—such as a slowdown in the global economy caused by the COVID-19 pandemic, and geopolitical tensions that have negatively affected global supply chains—the Kingdom's economy is in a resilient fiscal position, with fiscal space represented by strong government reserves and sustainable levels of public debt that can accommodate any crises that may occur in the future. In addition, the agile nature of additional spending allows the Kingdom to have control in the medium-term, allowing an extension of implementation periods for projects and strategies, the Minister said. His Excellency noted that positive growth rates in numerous economic activities are also expected during FY 2024 and in the medium-term. His Excellency noted that that the growth rates are a result of many structural reforms and sectoral strategies within Saudi Vision 2030. In addition, he emphasized that the government attaches great importance to strengthening the social protection system to protect citizens from global economic shocks.

His Excellency said that the positive forecast for the Saudi economy for FY 2024 is an extension to its performance since FY 2021, where the preliminary forecasts for economic growth rate for 2024 and the medium-term were revised, indicating a real GDP growth of 4.4% for 2024. This is supported by the growth of non-oil activities' with the expectation that the private sector will continue to drive economic growth in the economy, contribute to job creation, and improve trade balances. The government and its private sector partners will continue to implement Saudi Vision 2030 programs and initiatives, sectoral and regional strategies and giga projects, and other economic activities to achieve positive growth rates during 2024 and in the medium-term.

His Excellency the Minister of Finance said that the Kingdom's growing economy would boost revenue in the medium-term. He noted that the economic reforms come under the Fiscal Sustainability Program as it focuses on development of medium-term

fiscal planning process, with a view to sustaining and stabilizing public finances, while maintaining economic growth rates by diversifying revenue sources, increasing expenditure efficiency, and stimulating private sector growth.

According to the pre-budget statement, total revenues for FY 2024 are estimated to be SAR 1,172 billion, reaching SAR 1,259 billion in FY 2026. Total expenditures are estimated to be SAR 1,251 billion in FY 2024, reaching SAR 1,368 billion in FY 2026. His Excellency also noted that the government's FY 2024 budget is estimated to have modest deficits of 1.9% of GDP, reflecting the efforts to stabilize government revenues and the continuous investments to support a sustainable economic growth.

His Excellency said the government will follow its approved annual borrowing plan to finance the expected budget deficit and pay the principal debt due in 2024. In addition, the government will continue to search for available opportunities after considering the market conditions to finance strategic capital projects and infrastructure, seeking to diversify financing channels, to maintain capital efficiency and deepen debt markets. It is expected that the size of the public debt portfolio will increase as a result of the expansion in spending. This is to accelerate the implementation of some social and economic programs and projects to achieve Saudi Vision 2030 goals.

The Ministry of Finance publishes the pre-budget statement for FY 2024 as part of the government's existing methodology for developing the annual budget, placing it within a comprehensive fiscal and economic framework in the medium-term, to enhance the transparency, fiscal disclosure, and fiscal planning for the coming years.

The pre-budget statement aims to inform citizens, stakeholders, and analysts on the major local and international economic developments that affect the drafting of next year's budget, and the most important fiscal and economic indicators for the year 2024 and in the medium-term. The pre-budget statement also reviews the most important programs and initiatives to be implemented during the next fiscal year and the medium-term within the framework of the goals of Saudi Vision 2030.

To view the Pre-Budget Statement click here

Oct 13, 2023 05:33:31

OIL DEMAND MONITOR: Market to Stay Tight as Prices Sting Drivers

Analysts say high pump prices have sparked demand destruction
But growth continues in China; OPEC+ cuts to keep supply short

By John Deane

(Bloomberg) -- High prices have triggered gasoline demand destruction in the US and several emerging markets, even as global fuel consumption sets records, according to major monitoring agencies.

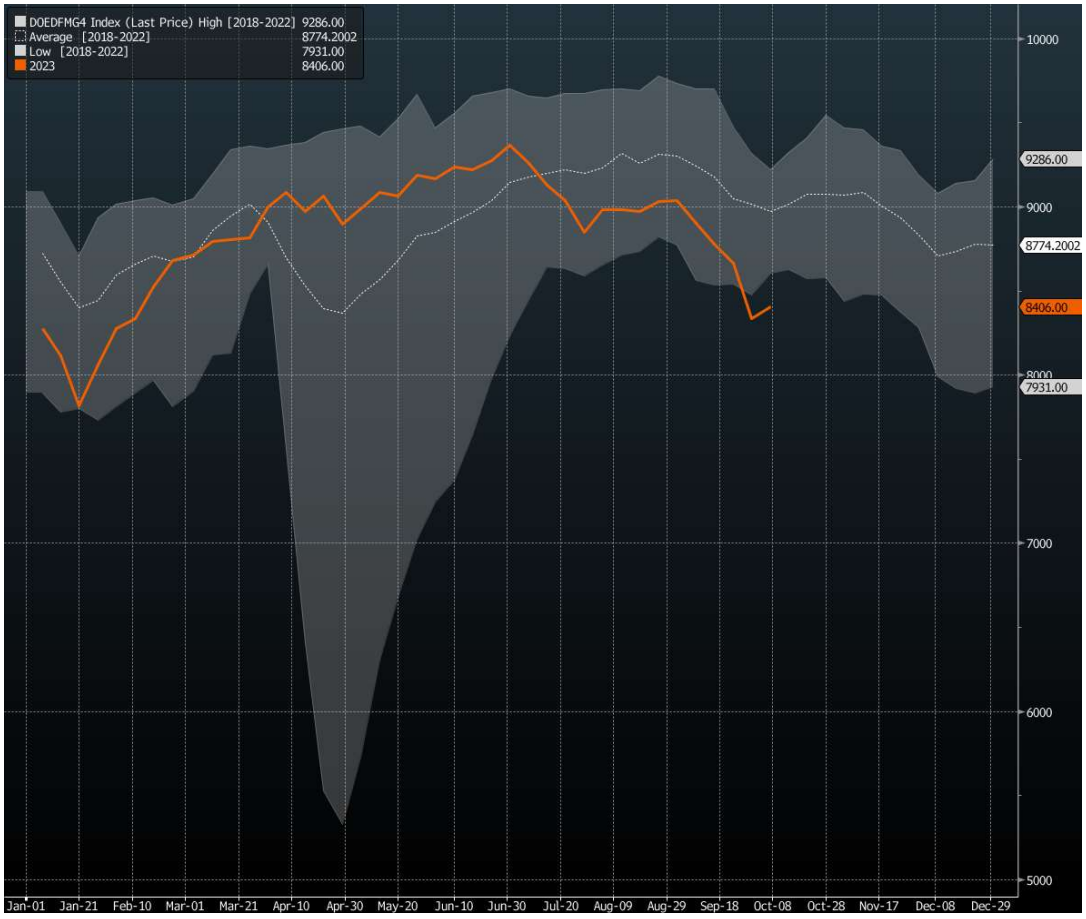
There's been evidence of "large-scale" demand destruction – centered on gasoline – in lower-income countries such as Nigeria, Pakistan and Egypt, as well as signs of accelerating declines in developed markets including the US, the International Energy Agency said Thursday in a monthly report.

But despite those initial indications of weaker consumption, and with crude prices easing this month even amid turmoil in the Middle East, growth continues apace in China, India and Brazil, underpinning forecast demand gains in 2023 of about 2.3 million barrels a day, the Paris-based agency said.

In its equivalent oil-market report, also published Thursday, the Vienna-based Organization of Petroleum Exporting Countries continued to point to a record supply deficit this quarter, with demand climbing to an all-time high and group leader Saudi Arabia curbing output.

The US Energy Information Administration, in its Short-Term Energy Outlook issued a day earlier, slightly lowered its 2023 estimate for US gasoline consumption to 8.84 million barrels a day. Total domestic oil demand also saw a modest downward revision to 20.07 million barrels a day.

Read More: Oil Traders Wary as Gasoline Demand Shows Signs of Cracking



US four-week average implied gasoline demand nudged up in latest data but remained seasonally weak

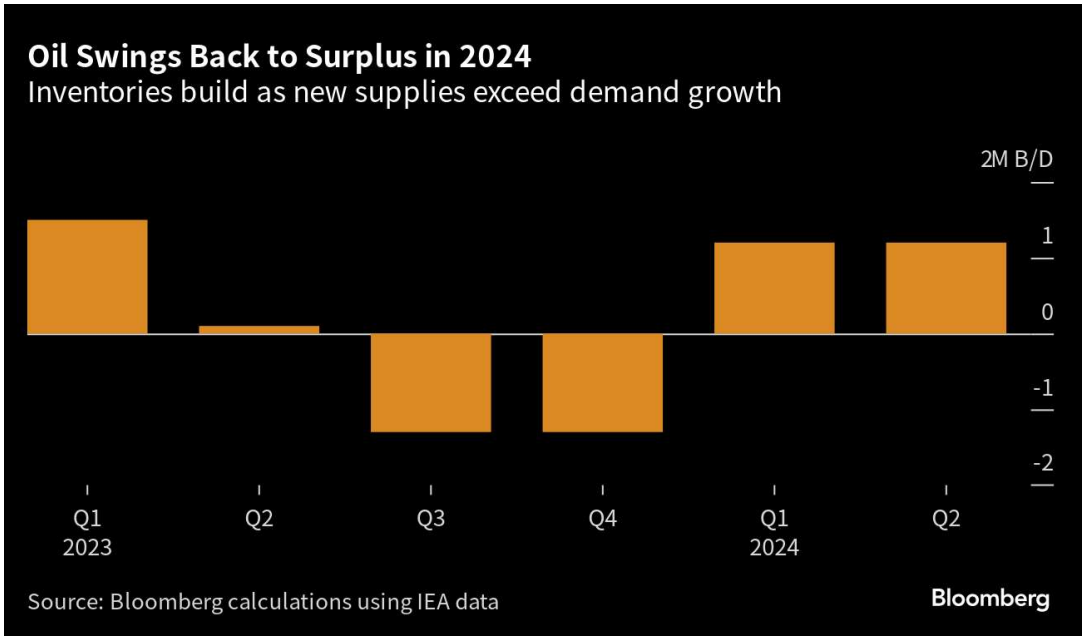
On the roads, traffic congestion remains elevated across Europe. Of 13 major global cities covered by this monitor, six – London, Rome, Madrid, Paris, Berlin and Taipei – topped pre-Covid traffic levels on Monday, according to BloombergNEF seven-day moving-average calculations based on TomTom data. Tokyo, New York and Los Angeles weren't far off that level. Traffic in most of the major Chinese cities rebounded from earlier holiday-related lows.

In the skies, there was a mixed picture. Global flights continued to track comfortably above last year's figures and 2019 levels in the week beginning Oct. 9, figures from Flightradar24 showed. Passenger throughput at US airports rose, according to data from the Transportation Security Administration. At London's Heathrow, passenger numbers slipped month-on-month in September but were a fifth higher year-on-year and above 2019 levels.

In China, air passenger traffic jumped to 64 million in August amid strong summer travel demand, the highest monthly total going back to early 2006 in data from the country's Civil Aviation Administration.

Read More: Air Travel Finally Escapes Pandemic, With Turbulence Ahead

Still, in its report on Thursday, the IEA said that next year, assuming Saudi Arabia and Russia unwind their latest production cutbacks, the global oil market may flip from deficit back into a supply surplus.



Looking further ahead, OPEC in a long-term outlook earlier this week raised forecasts for global oil demand through to the middle of the century, even as the world shifts away from fossil fuels. Road transportation, petrochemicals and aviation will drive the growth, it said, with India and China expanding the most.

Read More: OPEC Boosts Oil Demand Forecast to 2045 Despite Climate Crisis

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 show fuel demand and road congestion, the next shows air travel globally and the last is refinery activity.

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Demand Measure	Location	%vs 2022	% vs 2021	% vs 2020	% vs 2019	% m/m	Freq	Latest Date	Latest Value	Source
Gasoline product supplied	US	+3.7	-6.6	+0.1	-9.3	+3.3	w	Oct. 6	8.58m b/d	EIA
Distillates product supplied	US	-16	-6.7	-12	-9.1	+2.6	w	Oct. 6	3.67m b/d	EIA
Jet fuel product supplied	US	-2.2	+12	+27	-16	-17	w	Oct. 6	1.49m b/d	EIA
Total oil products supplied	US	+2	-1.1	+1	-8.2	-6.3	w	Oct. 6	19.67m b/d	EIA
Car use	UK	unch.	unch.	+11	-6	-3.1	m	Oct. 9	94	DfT
Heavy goods vehicle use	UK	+1	-3.6	unch.	+6	-0.9	m	Oct. 9	106	DfT

All motor vehicle use index	UK	+1	+1	+11	-1	-2.9 m	Oct. 9	99 DfT
Gasoline (petrol) avg sales per filling station	UK	+2.6	-16	+7.4	-2.3	+3.4 m	Week to Oct. 1	7,026 liters/d BEIS
Diesel avg sales per station	UK	-4.6	-23	-8.6	-16	+8.4 m	Week to Oct. 1	8,797 liters/d BEIS
Total road fuels sales per station	UK	-1.5	-20	-2.1	-10	+6.1 m	Week to Oct. 1	15,822 liters/d BEIS
Diesel sales	India	+3.8				-2.7 m	September	6.49m tons PPAC
Gasoline sales	India	+8.2				-1.1 m	September	3.06m tons PPAC
Jet fuel sales	India	+12				-3 m	September	657k tons PPAC
LPG sales	India	+4.5				+3.7 m	September	2.55m tons PPAC
Total oil products	India	+7.6				-2.1 m	September	18.18m tons PPAC
Gasoline deliveries	Spain	+5.5				-14 m	September	560k m3 Exolum
Diesel (and heating oil) deliveries	Spain	-2.6				+1.4 m	September	2,166k m3 Exolum
Jet fuel deliveries	Spain	+11				-8 m	September	663k m3 Exolum
Total oil products deliveries	Spain	+0.8				-3.4 m	September	3,389k m3 Exolum
Road fuel sales	France	-1.2				-3.1 m	August	4.066m m3 UFIP
Gasoline sales	France	+5.5				m	August	n/a UFIP
Road diesel sales	France	-4.1				m	August	n/a UFIP
Jet fuel sales	France	+7.3			-9.9	-0.3 m	August	766k m3 UFIP
All petroleum products sales	France	-1.2				-3.8 m	August	4.59m tons UFIP
All vehicles traffic	Italy	+1				-5 m	September	n/a Anas
Heavy vehicle traffic	Italy	unch.				+21 m	September	n/a Anas
Gasoline sales	Italy	+0.4			+16	-2.6 m	August	759k tons Energy Ministry
Transport diesel sales	Italy	-3.9			+1.1	-12 m	August	1.89m tons Energy Ministry
Diesel/gasoil sales	Italy	-5.2			-1.9	-13 m	August	2.1m tons Energy Ministry
LPG sales	Italy	-2.5			-1.3	-0.9 m	August	233k tons Energy Ministry
Jet fuel sales	Italy	+25			-1.4	+2.3 m	August	499k tons Energy Ministry
Total oil product sales	Italy	-0.7			-3.8	-8.8 m	August	4.33m tons Energy Ministry
Gasoline consumption	Portugal	+7.9	+21	+30	+11	+6.5 m	August	123,893 tons ENSE
Diesel consumption	Portugal	-4.5	+5.3	+11	-1.4	-2.6 m	August	444,469 tons ENSE
Jet fuel consumption	Portugal	+11	+76	+188	+12	+10 m	August	176,026 tons ENSE
Gasoline	Germany	-1.7			-7.4	-0.7 m	July	1.5m tons BAFA
Diesel	Germany	-7.4			-18	-1.4 m	July	2.8m tons BAFA
Heating oil	Germany	-21			-39	-9.2 m	July	831k tons BAFA
Jet fuel	Germany	+4			+1.2	+7.8 m	July	897k tons BAFA

Total oil product sales	Germany	-8.9	-19	-0.7	m	July	7.48m tons	BAFA
% change in toll roads kms traveled	France	+3.5	+5.4		m	September	n/a	Mundys
% change in toll roads kms traveled	Italy	+1.3	+2.5		m	September	n/a	Mundys
% change in toll roads kms traveled	Spain	-0.9	-3.5		m	September	n/a	Mundys
% change in toll roads kms traveled	Brazil	+5.5	+12		m	September	n/a	Mundys
% change in toll roads kms traveled	Chile	-4	+5.6		m	September	n/a	Mundys
% change in toll roads kms traveled	Mexico	+1.9	+14		m	September	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	Oct. 9	Oct. 2	Sept. 25	Sept. 18	Sept. 11	Sept. 4	Aug. 28	Aug. 21	Aug. 14	Aug. 7
Congestion	Tokyo	93	99	105	96	90	89	98	76	85	99
Congestion	Taipei	101	98	104	98	104	94	94	97	104	88
Congestion	Jakarta	69	61	67	65	64	67	68	55	68	68
Congestion	Mumbai	60	56	53	68	63	56	65	49	56	62
Congestion	New York	93	108	96	112	107	77	81	83	83	84
Congestion	Los Angeles	97	95	93	95	93	83	97	86	89	90
Congestion	London	124	126	135	124	110	124	97	97	89	99
Congestion	Rome	129	125	121	115	102	59	29	19	29	56
Congestion	Madrid	117	109	108	103	79	54	23	15	17	26
Congestion	Paris	112	112	90	110	104	84	59	43	39	53
Congestion	Berlin	101	105	108	107	103	110	93	77	75	77
Congestion	Mexico City	79	79	79	72	86	84	77	79	66	65
Congestion	Sao Paulo	89	81	79	87	64	80	79	79	85	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 seven-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	+7.7	+22	+51	+16	-2.9	-1.6	d	Oct. 9	226,214	Flightradar24
Commercial flights	Worldwide	+20	+35	+86	+6.7	+0.3	-1.1	d	Oct. 9	127,388	Flightradar24
Seat capacity per week	Worldwide	+14	+39	+91	-1.6		-1.1	w	Oct. 9 week	110.6m seats	OAG
Air traffic (flights)	Europe				-5.4	-5.7	-1.8	d	Oct. 9	31,159	Eurocontrol
Airline passenger throughput (7-day avg)	US	+11	+33	+212	+5	+9	+2	w	Oct. 8	2.43m	TSA
Air passenger traffic per month	China	+98	+185	+39	+4.6	+2.5		m	August	64m	CAAC
Heathrow airport passengers	UK	+22	+175	+463	+4.4	-6.3		m	September	7.08m	Heathrow

Rome % change in passengers carried	Italy	+21		-6.8	m	September	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	-3.1	+0.9%	-2.9	-9.5%	Oct. 6	15.2m b/d	EIA
Utilization	US	-4.2	-1	unch.	-8	Oct. 6	85.7%	EIA
Utilization	US Gulf	-5.7	-1.3	-1.2	-5.9	Oct. 6	86.2%	EIA
Utilization	US East	-20	-5.3	+10	-21	Oct. 6	71.1%	EIA
Utilization	US Midwest	-6.1	-1.4	-1.5	-13	Oct. 6	85.9%	EIA
Utilization (indep. refs)	Shandong, China	-3.4	-5.1	+1.3	+1.6	Oct. 13	64.99%	Oilchem

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

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Crude Stockpiles in US Climb 10.2 Million Barrels: EIA Takeaways

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Air Passenger Market Analysis

August 2023

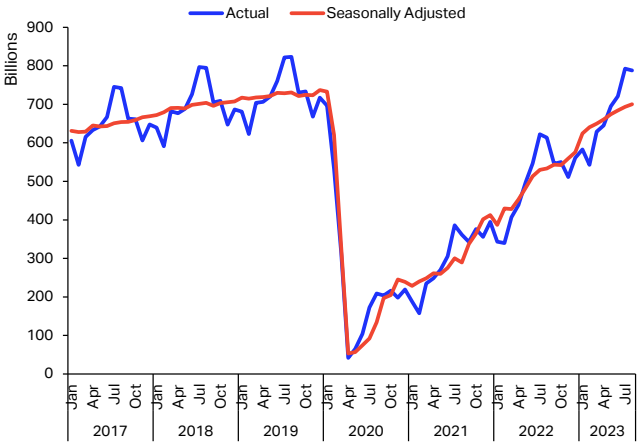
Passenger traffic growth continued in August

- Industry-wide revenue passenger-kilometers (RPKs) increased 28.4% year-on-year (YoY) in August. Compared to 2019 levels, passenger traffic recovered to 95.7%.
- Available seat-kilometers (ASKs) rose at a slower annual pace of 24.9%, lifting passenger load factors (PLFs) close to pre-pandemic levels. The PLF in August was 84.6%, 1.1 ppts lower than the PLF for the same month in 2019.
- Domestic passenger traffic grew 9.2% over pre-pandemic levels. Most monitored markets saw stable growth in domestic traffic, while Japan experienced disruptions due to Typhoon Khanun.
- The recovery of international RPKs remained at 88.5% of 2019 levels. Regions experienced different outcomes while Asia Pacific carriers continued to restore international traffic.
- Ticket sales data signaled unwinding domestic demand while international bookings remained on the same positive trend.

Passenger traffic expanded further in August…

In August, industry-wide revenue passenger-kilometers (RPKs) grew 28.4% year-on-year (YoY) and reached 95.7% of August 2019 levels. In seasonally-adjusted terms, passenger traffic increased 1.0% month-on-month (MoM), indicating a slowing but still positive trend globally (**Chart 1**).

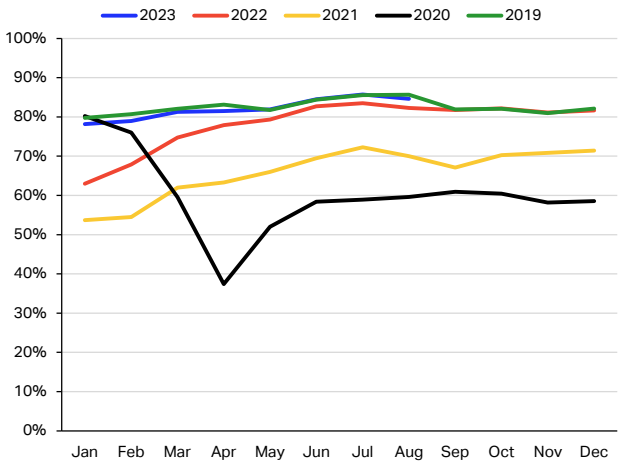
Chart 1 – Global air passengers, revenue-passenger kilometers (RPKs), billions per month



Sources: IATA Sustainability and Economics, IATA Monthly Statistics

Seat capacity, measured in available seat-kilometers (ASKs), rose 24.9% YoY and was only 3.1% under 2019 levels. Airlines in all regions have achieved growth in traffic and passenger load factors (PLFs), compared to the same month in 2022. Across the whole industry, PLFs have trended near those of 2019, an indication of high demand for air travel and good financial performance for airlines (**Chart 2**).

Chart 2 – Industry-wide passenger load factors, % share of available seat-kilometers (ASKs)



Sources: IATA Sustainability and Economics, IATA Monthly Statistics

…mainly supported by strong domestic traffic

Total domestic RPKs grew 9.2% over 2019 numbers and 25.4% over 2022 levels, maintaining the improvement trend observed in recent months. On the hand, the recovery in international RPKs experienced a decrease compared to July, now standing 11.5% below August 2019 levels. While recovery trends in domestic and international traffic have been diverging since May 2023, international RPKs have maintained their growth, albeit at a slower pace than domestic

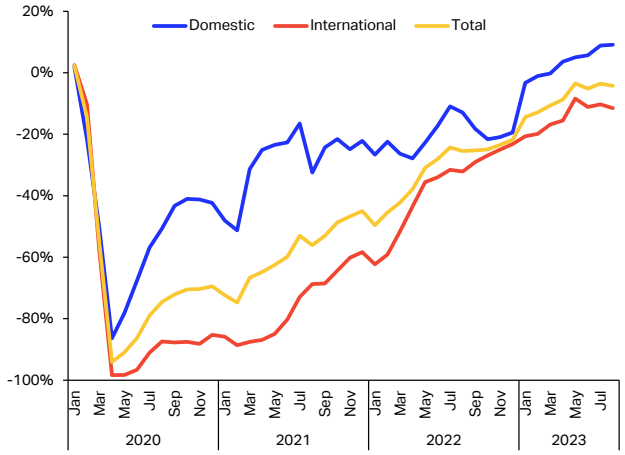
Air passenger market in detail - August 2023

	World share[1]	August 2023 (% year-on-year) RPK	ASK	PLF (%-pt)[2]	PLF (level)[3]	August 2023 (% ch vs the same month in 2019) RPK	ASK	PLF (%-pt)[2]	PLF (level)[3]
TOTAL MARKET	***100.0%***	**28.4%**	**24.9%**	**2.3%**	**84.6%**	**-4.3%**	**-3.1%**	**-1.1%**	**84.6%**
International	*58.1%*	30.4%	27.5%	1.9%	85.4%	-11.5%	-11.2%	-0.3%	85.4%
Domestic	*41.9%*	25.4%	21.1%	2.9%	83.5%	9.2%	12.1%	-2.2%	83.5%

[1]% of industry RPKs in 2022 [2]Change in load factor [3]Load factor level

traffic and relative to the strong performance of international traffic in 2019 (**Chart 3**).

Chart 3 – Global domestic and international revenue passenger-kilometers (RPKs), YoY% change vs. 2019

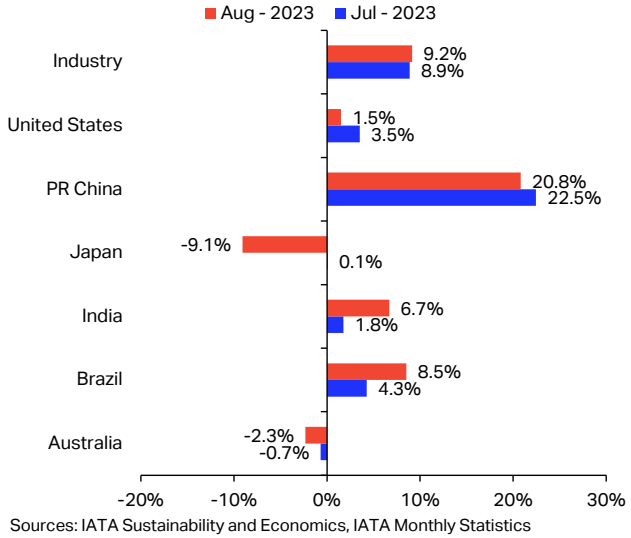


Sources: IATA Sustainability and Economics, IATA Monthly Statistics

Performance remained resilient among monitored domestic markets…

PR China has seen substantial growth in domestic RPKs over recent months. Traffic almost doubled compared to last year, with 93.6% annual growth in August, albeit from a higher base. Domestic demand in the country remained 20.8% above pre-pandemic numbers while ASKs were 33.9% higher than August 2019 levels, resulting in a lower monthly PLF (**Chart 4**).

Chart 4 – Domestic RPK growth by market, YoY% change vs. 2019



Sources: IATA Sustainability and Economics, IATA Monthly Statistics

In India, domestic traffic stood above pre-pandemic levels for the 7th consecutive month. RPKs increased 6.7% over 2019 levels and 23.2% YoY. Based on the most recent data and developments for the country's airlines, the Indian domestic market indicates that it has resumed its pre-pandemic growth trend.

Domestic RPKs in Australia were 2.3% under pre-Covid levels and increased 6.6% YoY. Traffic levels maintained a positive trend since April, when the seasonal peak did not appear in the country's total numbers and resulted in lower recovery rates.

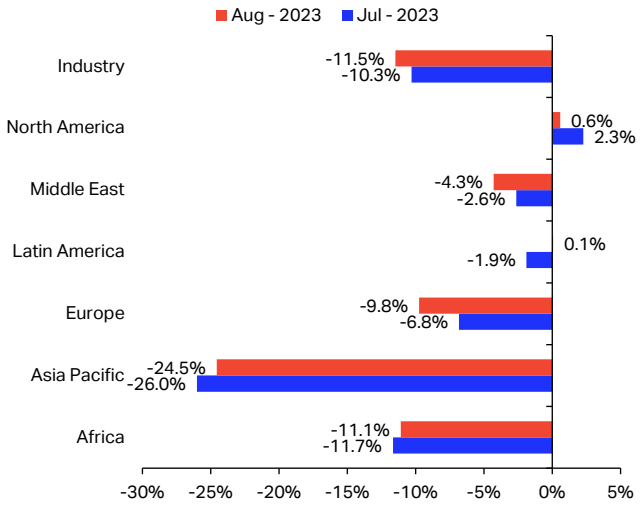
In August, Typhoon Khanun caused major air traffic disruptions in southern Japan. Domestic ASKs contracted 7.0% YoY while total RPKs grew by 8.7%. Compared to pre-pandemic levels, passenger numbers and available seats both significantly contracted, reflecting the typhoon's impact on traffic.

In the US, both capacity and passenger traffic continued to achieve growth over pre-Covid levels. ASKs and RPKs climbed 9.6% and 11.2% YoY, respectively. Brazil's recovery in domestic passenger numbers continued to be closely followed by seat capacity. While RPKs for the country's airlines were 8.5% higher than in 2019, ASKs were up 7.8%.

… while international recovery staggered as regions faced different challenges

Despite sustaining a positive trend in levels, the recovery of industry-wide international RPKs has been regressing since May 2023. While most regions have seen continuous recovery, Europe's momentum has been losing steam over the most recent months. In addition, August 2023 saw lower passenger traffic numbers than July, an unusual pattern in contrast to the historical seasonal trends. The region also faces a wider range of capacity constraints, which could further hinder traffic recovery. International RPKs performed by European carriers were 9.8% lower in August compared to pre-Covid levels, while the load factor remained 2.3 ppts below (**Chart 5**).

Chart 5 – International RPK growth by airline region of registration, YoY% change versus 2019



Sources: IATA Sustainability and Economics, IATA Monthly Statistics

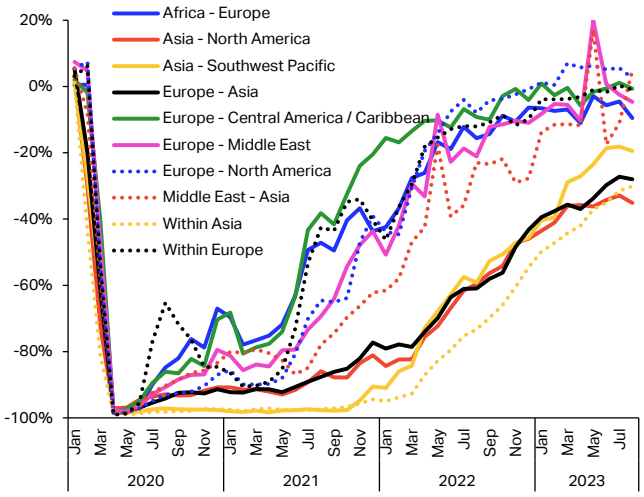
International RPKs in the Asia Pacific region surged 98.5% YoY, almost doubling when compared to the previous year but still down 24.5% compared to 2019 numbers. Nonetheless, the region's PLF was 5.5 ppts higher than in August 2022 (1.4 ppts above August 2019 levels), revealing the high demand for travel in the region.

African and Middle Eastern carriers saw 26.1% and 27.3% YoY growth in international RPKs in August, respectively. For both regions, traffic levels are still approaching full recovery, maintaining their upward trends observed since earlier this year.

North American airlines outperformed pre-pandemic levels for the 5th consecutive month, achieving 0.6% growth over August 2019 RPKs (**Chart 5**). Latin American carriers achieved full monthly recovery in international passenger traffic for the first time this month, surpassing 2019 levels by 0.1% and growing 26.4% YoY.

Reflecting the airlines' performances, major route areas have seen slight contractions in traffic recovery rates in August (**Chart 6**). International RPKs between Europe and the Americas, as well as Europe-Middle East, remained strong. Meanwhile traffic continued to be restored on Asia Pacific route areas. International traffic from China has not recovered as fast as domestic traffic. However, as demand gradually ramps ups, flows within and from Asia Pacific could recover further.

Chart 6 – International RPKs, YoY% change vs. 2019 – Top 10 route areas in 2019



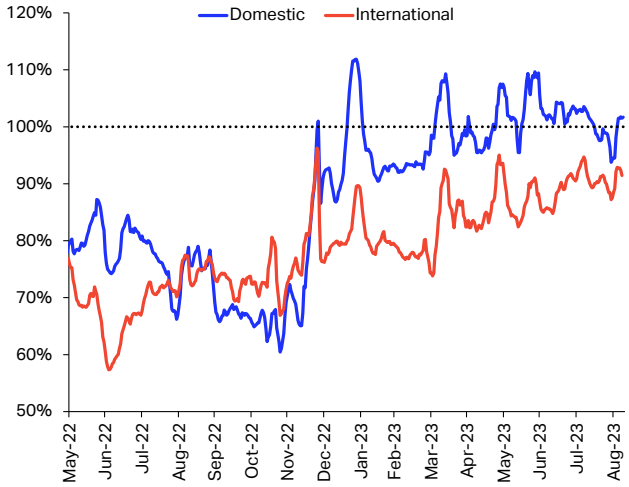
Sources: IATA Sustainability and Economics, IATA Monthly Statistics

Recent ticket sales data signal potential slowdown in global recovery

Since January 2023, China's reopening greatly contributed to the rise in global passenger traffic. China's domestic market was the second largest in terms of RPKs, behind the US, and accounted for 27.2% of industry total domestic RPKs and 9.8% of industry total RPKs. The rapid surge in demand for air travel in the country also drove domestic ticket sales to new highs **(Chart 7)**.

As August drew to a close, and domestic tourism in China started cool down, the number of ticket sales started to trend downwards. Latest bookings data suggest that the coming months might see lower traffic levels in China, impacting the regional and global traffic trends. On the other hand, international ticket sales have sustained a positive direction and continue to support a positive outlook for the upcoming months.

Chart 7 – Ticket sales by purchase date, 7-day moving average - % share of 2019 levels



Sources: IATA Sustainability and Economics, DDS

Air passenger market in detail - August 2023

	World	August 2023 (% year-on-year)				August 2023 (% ch vs the same month in 2019)			
	share [1]	RPK	ASK	PLF (%-pt)[2]	PLF (level)[3]	RPK	ASK	PLF (%-pt)[2]	PLF (level)[3]
TOTAL MARKET	***100.0%***	**28.4%**	**24.9%**	**2.3%**	**84.6%**	**-4.3%**	**-3.1%**	**-1.1%**	**84.6%**
Africa	*2.1%*	24.8%	24.3%	0.3%	76.4%	-8.3%	-9.3%	0.8%	76.4%
Asia Pacific	*22.1%*	73.4%	57.7%	7.4%	82.2%	-7.1%	-5.1%	-1.8%	82.2%
Europe	*30.8%*	11.6%	10.2%	1.1%	87.6%	-6.6%	-5.1%	-1.4%	87.6%
Latin America	*6.4%*	17.6%	14.5%	2.2%	85.1%	6.9%	4.6%	1.8%	85.1%
Middle East	*9.8%*	26.4%	21.6%	3.2%	83.0%	-3.7%	-4.8%	1.0%	83.0%
North America	*28.8%*	12.6%	13.0%	-0.3%	85.8%	0.9%	2.5%	-1.4%	85.8%
International	***58.1%***	**30.4%**	**27.5%**	**1.9%**	**85.4%**	**-11.5%**	**-11.2%**	**-0.3%**	**85.4%**
Africa	*1.8%*	26.1%	25.5%	0.4%	76.2%	-11.1%	-11.8%	0.6%	76.2%
Asia Pacific	*8.9%*	98.5%	85.5%	5.5%	84.2%	-24.5%	-25.8%	1.4%	84.2%
Europe	*26.5%*	13.6%	12.3%	1.1%	86.8%	-9.8%	-7.3%	-2.3%	86.8%
Latin America	*2.8%*	26.4%	23.8%	1.7%	86.1%	0.1%	-2.4%	2.2%	86.1%
Middle East	*9.4%*	27.3%	22.7%	3.0%	83.1%	-4.3%	-5.1%	0.7%	83.1%
North America	*8.7%*	18.6%	17.5%	0.8%	87.7%	0.6%	1.3%	-0.6%	87.7%
Domestic	***41.9%***	**25.4%**	**21.1%**	**2.9%**	**83.5%**	**9.2%**	**12.1%**	**-2.2%**	**83.5%**
Dom. Australia[4]	*1.0%*	6.6%	10.7%	-3.2%	82.3%	-2.3%	-2.7%	0.3%	82.3%
Domestic Brazil[4]	*1.5%*	7.8%	5.4%	1.8%	83.1%	8.5%	7.8%	0.6%	83.1%
Dom. China P.R.[4]	*6.4%*	93.6%	66.2%	11.2%	79.1%	20.8%	33.9%	-8.5%	79.1%
Domestic India[4]	*2.0%*	23.2%	15.6%	5.1%	83.9%	6.7%	8.5%	-1.4%	83.9%
Domestic Japan[4]	*1.2%*	8.7%	-7.0%	12.0%	82.5%	-9.1%	-10.5%	1.3%	82.5%
Domestic US[4]	*19.2%*	9.6%	11.2%	-1.2%	84.4%	1.5%	4.2%	-2.2%	84.4%

[1]% of industry RPKs in 2022 [2]Change in load factor [3]Load factor level

4 Note: the six domestic passenger markets for which broken-down data are available account for approximately 31.3% of global total RPKs and 74.6% of total domestic RPKs

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

IATA Sustainability & Economics
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04 October 2023

Get the data

Access data related to this briefing through IATA's Monthly Statistics publication:
www.iata.org/monthly-traffic-statistics

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https://www.timescolonist.com/indigenous-news/exxons-us595b-bet-on-fossil-fuels-has-implications-for-canadian-oilpatch-experts-7670443

Exxon's US$59.5B bet on fossil fuels has implications for Canadian oilpatch: experts

CALGARY — Exxon Mobil Corp.'s acquisition of Pioneer Natural Resources in a US$59.5 billion mega-deal is being seen by some as a major vote of confidence in fossil fuels that also bodes well for the Canadian oilpatch. The U.S.

Amanda Stephenson, The Canadian PressOct 11, 2023 3:20 PM

CALGARY — Exxon Mobil Corp.'s acquisition of Pioneer Natural Resources in a US$59.5 billion mega-deal is being seen by some as a major vote of confidence in fossil fuels that also bodes well for the Canadian oilpatch.

The U.S. multinational oil giant announced the all-stock deal Wednesday, its largest buyout since acquiring Mobil two decades ago and a move that will create a colossal hydraulic fracturing (fracking) operator in West Texas.

Observers have framed the deal as Exxon doubling down on fossil fuels at a time when the world is seeking to transition to lower-carbon energy sources in order to slow the pace of climate change.

Dan Tsubouchi, Calgary-based principal and chief market strategist with SAF Group, said in an interview that Exxon is clearly confident that global demand for oil will remain strong in at least the immediate future.

"They're spending US$60 billion today," Tsubouchi said. "They wouldn't do that if they didn't see at least a 10-to-15-year window for oil."

That "stronger for longer" outlook is due to a variety of factors, Tsubouchi said, including the fact that many of the technologies necessary for the energy transition — including hydrogen development, sustainable aviation fuel and more — have been slower to roll out than advocates may have hoped.

That combined with the war in Ukraine has led to global energy security concerns, spiking prices and leaving oil and gas companies flush with cash.

Exxon itself posted unprecedented profits last year of US$55.7 billion, breezing past its previous record of US$45.22 billion in 2008 when oil prices hit record highs.

“Demand for oil is not going away as quickly as people assumed,” Tsubouchi said, adding that in the wake of the Exxon-Pioneer merger, he wouldn't be surprised to see an uptick in merger and acquisition activity north of the border.

In particular, he said such deal-making might occur in the Montney region of northeast B.C. and northwest Alberta, where horizontal fracking technology similar to what Exxon will be using in the Permian opens up opportunities for companies to increase production in a relatively cost-efficient manner.

Tsubouchi said oilsands bulls could also be looking to increase production in the coming years, though he said that will likely be accomplished through incremental add-ons to existing facilities — not through the whole-scale construction of a new oilsands mine.

"These companies aren't going to go into something like the mega-projects of the past," he said.

"But they will look at short-cycle projects where they can take advantage of a 10-15 year window, just like Exxon has."

Canadian oil and gas executives have been vocal recently about they what they see as an increasingly rosy outlook for fossil fuels.

Last week, Enbridge CEO Greg Ebel spoke to the Toronto Region Board of Trade about why he thinks a Canadian liquefied natural gas (LNG) industry could be part of the solution for the global energy crisis.

And Suncor Energy Inc.'s chief executive Rich Kruger told analysts on a conference call earlier this year that while lower emissions energy is important, the way for Suncor to win in today's business environment is to focus on its core oilsands assets.

"Outwardly, the oil bulls are growing," said Duncan Kenyon of Investors for Paris Compliance, which takes financial positions in Canadian companies in an effort to hold them accountable to their net-zero emissions promises.

"It's obviously great times for them right now and there are short-term gains to be had."

But Kenyon said the very fact that companies are favouring short-cycle, disciplined growth over big-spend, long-cycle projects shows there is still a lot of uncertainty in the industry about the pace and scale of the coming energy transition and how the oil industry will be affected.

"I think the industry and investors in this sector are really struggling to understand what's happening and how to prepare for these emerging risks," he said.

"And these are emerging risks that have the potential to flip-flop the energy system on its head, and fossil fuels end up on the bottom."

This report by The Canadian Press was first publishedOct. 11, 2023.

— With files from The Associated Press

Amanda Stephenson, The Canadian Press

For Immediate Release: 10/12/23

Rory M. Christian, Chair

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23105/15-E-0302; 18-E-0071

PSC Issues Decision to Preserve Competitive Renewable Energy Market and Protect Consumers

Denies Petitions Filed by Renewable Energy Developers Seeking Financial Relief

Commission Reaffirms Commitment to Achieve Renewable Energy Targets

ALBANY — The New York State Public Service Commission (Commission) today denied petitions filed by a group of offshore wind developers and a state renewable energy trade association seeking billions of dollars in additional funding from consumers for four proposed offshore wind projects and 86 land-based renewable projects. In denying financial relief, the Commission opted to preserve the robust competitive bidding process that provides critically needed renewable energy resources to New York in the fairest and most cost-effective manner that protects consumers.

“The requested amendments to the contracts would have provided adjustments outside of the competitive procurement process; such relief is fundamentally inconsistent with long-standing Commission policy,” **said Commission Chair Rory M. Christian.** "The Commission has repeatedly stated that competition in the procurement process is necessary to protect ratepayers and provides the soundest approach to mobilize the industry to achieve our critical State goals dependably and cost-effectively, and we do so again through today's action.”

The petitions denied today were submitted by Empire Offshore Wind LLC and Beacon Wind LLC, Sunrise Wind LLC, and the Alliance for Clean Energy New York, Inc. (ACENY). The petitions were seeking adjustment to Renewable Energy Credit (REC) and Offshore Wind REC (OREC) purchase and sales agreements entered with NYSERDA to address recent inflationary pressures that are impacting project economics.

Upon careful consideration, the Commission found that the contract amendments sought by the Empire/Beacon, Sunrise, and ACENY petitions were not in the best interest of the State’s ratepayers. On a monthly bill basis, granting the request to amend the executed contracts outside the competitive procurement process would have resulted in as high as 6.7 percent increases for residential customers and as high as 10.5 percent for commercial or industrial customers on monthly bills depending on service territory and the level of relief provided — above what was already committed.

In its decision, the Commission stressed that it remains fully supportive of the Climate Leadership and Community Protection Act, which codifies decarbonization requirements for various sectors of the economy and adopts ambitious renewable energy deployment targets and will continue to adhere to Climate Act requirements in a manner that preserves competitive procurement processes and

ensures utility rates are just and reasonable. The Commission said that the decision reaffirms that competitive procurement is the best, most efficient way to help New York reach its goal of having at least 70 percent of electric load served by renewable energy by 2030, development of 9,000 megawatts of offshore wind energy by 2035 and meeting statewide demand with zero emissions resources by 2040.

All three petitions requested an order from the Commission that would have directed NYSERDA to incorporate an adjustment mechanism into existing REC and OREC purchase and sales agreements to account for inflation and other economic impacts cited by the developers.

The petitions drew significant comments from stakeholders both supporting and opposing granting financial relief. Supporters pointed to the State's clean energy goals and argued that relief is needed to stay on track toward achieving those goals. Opponents generally expressed concern with the increase in prices that will be borne by ratepayers and the disruption of the competitive process that was used to award these projects.

The petitions generally stated that the effects of the COVID-19 pandemic have exposed the projects to unprecedented global and regional supply chain bottlenecks, high inflation, and increases in the cost of capital, driven by rising interest rates. Further, the petitions identified impacts associated with the war in Ukraine, including increased demand for renewable energy and resulting shortages and price increases for key components and equipment.

Petitions making similar requests as the offshore wind developers submitted by Clean Path New York LLC for the Clean Path New York project and by H.Q. Energy Services (U.S.) Inc. for the Champlain Hudson Power Express Project remain under review by the Commission.

Today's decision may be obtained by going to the Commission Documents section of the Commission's Web site at www.dps.ny.gov and entering Case Numbers 15-E-0302 or 18-E-0071 in the input box labeled "Search for Case/Matter Number". Many libraries offer free Internet access. Commission documents may also be obtained from the Commission's Files Office, 14th floor, Three Empire State Plaza, Albany, NY 12223 (518-474-2500). If you have difficulty understanding English, please call us at 1-800-342-3377 for free language assistance services regarding this press release.

-30-

New York Unanimously Rejects Offshore Rate-Relief Request (1)
2023-10-12 17:12:35.523 GMT

By Will Wade
(Bloomberg) -- New York state unanimously rejected requests from offshore wind developers including Equinor ASA and Orsted A/S for higher rates that the state concluded would add as much as $12 billion in costs.
Developers planning more than 4 gigawatts of offshore wind projects alongside Long Island must abide by the terms of existing contracts to deliver power, the New York Public Service Commission ruled during a meeting Thursday. The regulators refused to entertain requests to increase rates after inflation and supply-chain issues drove up costs.
Read More: Spiraling Offshore Wind Costs Show Limits of Biden Inflation Act
“To developers: We have a deal,” Rory Christian, chairman of the commission, said during the meeting. “Developers should stand by the terms of their contracts.”
Shares of some of the largest offshore wind companies tumbled during the meeting. Orsted dropped as much as 3.3% in Copenhagen as commissioners began to share their views. Avangrid Inc., which has already agreed to pay $64 million to exit offshore wind deals in other states but wasn't involved in Thursday's New York meeting, tumbled as much as 4.5%.
The decision is a blow to developers that have said they may not be able to complete projects under the current terms. Many proposed US projects were modeled years ago, before a run-up in interest rates and material costs. While the move may threaten the state’s clean-energy goals, the commission said that revising the contracts would set a dangerous precedent and undermine its competitive process for procuring power.
Developers with projects alongside other states are already paying tens of millions in penalties to exit contracts they say no longer make financial sense. The commission said the companies could exit the deals and bid again in future procurement processes.
Equinor, along with BP Plc, is planning the Empire and Beacon offshore projects, with a combined total capacity of 3.3 gigawatts that could together power around 2 million New York homes. The companies in June told the state that “adverse economic impacts have imposed unprecedented and escalating cost increases on the projects.” To remain viable, they asked the state to approve a 54% price increase.
“Equinor and BP are disappointed at the New York Public Service Commission’s rejection of Empire Wind and Beacon Wind’s petition for support to help offset the unforeseen challenges facing our industry today stemming from inflation, supply chain disruptions and high interest rates,” Molly Morris, president of Equinor Renewables Americas, said in an emailed statement. “These projects must be financially sustainable to proceed. Equinor and BP will assess the impact of the state’s decision on

these projects."

Danish wind giant Orsted has several projects in the works off the US East Coast including the 924-megawatt Sunrise project east of Long Island, enough to provide power to around 600,000 customers. Orsted Chief Executive Officer Mads Nipper has said that the company is prepared to walk away from its US projects if it doesn't receive more government aid. Orsted's request to New York state was for a 27% bump. The company didn't immediately comment on the decision.

Commission staff members concluded that the higher prices sought by the developers would increase electricity rates for commercial and industrial customers by as much as 10.5% and consumer rates by as much as 6.7%.

"The level of relief requested here is jaw-dropping," Diane Burman, a commissioner, said during the meeting.

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To view this story in Bloomberg click here:
https://blinks.bloomberg.com/news/stories/S2FE5UDWRGG0

FINANCIAL MARKETS UPDATE

Park City Wind PPA cancellation

- As promised in our last strategic plan in September 2022, we took steps to improve the economics of our Park City Wind and Commonwealth Wind projects, including the renegotiation or termination of their associated PPAs at the lowest possible costs to avoid massive write-offs
- Since that time, Avangrid has been transparent and collaborative, working diligently with state and federal officials and stakeholders to find solutions to the economic challenges facing the projects as we continued to advance the permitting and development of the project
- Avangrid was the first offshore wind developer in the United States to make public the unprecedented economic head winds facing the industry which rendered the Park City Wind, and Commonwealth Wind projects unfinanceable under existing contracts
- On October 2nd, Connecticut EDCs (Eversource and The United Illuminating) filed with The Public Utility Regulatory Authority (PURA) an amendment to the Park City Wind PPAs, requesting to terminate the agreements because the facility is no longer financeable
- The termination of the PPAs is in line with Avangrid continuous message of not embarking in uneconomic projects that would have had a material negative impact for our shareholders
- Connecticut EDCs have requested PURA to approve the cancellation of the Park city Wind PPAs within the next 30 days, although there is no statutory approval deadline for PURA to respond
- The termination of the PPAs include a payment for an amount of $16M due to the EDCs, at which moment the termination will become effective
- The cancellation of these PPAs follows the recent cancellation of Commonwealth Wind offshore wind project in Massachusetts, for the same reasons

FINANCIAL MARKETS UPDATE

Offshore milestones

Delivering on our commitments and protecting shareholder value

Park City Wind

- ✓ Worked closely with state to find ways to restore project to economic viability
- ✓ Clearest path forward with ongoing volatility in the global economy is to terminate project; EDCs filed with CT PURA to terminate the contracts on **October 2nd 2023**
- Avangrid payment of ~**$11.8M after-tax, $16M pre-tax** impacting 2023*, avoiding billions of write-offs taken by peers (excluded from adjustment net income)
- Value of the lease increases

Commonwealth Wind

- ✓ Determined benefit of termination to enable participation in future RFPs/avoid write-offs
- ✓ EDCs filed for contract terminations **July 2023**
- ✓ MA DPU approved contract termination in **August 2023**
- ✓ Avangrid payment of $48M (50% reserved in 2022, 50% or ~**$17.6M after-tax ($24M pre-tax)** impacting 2023 (excluded from adjustment net income)
- ✓ Value of the lease increased

Consistent with our 2022 Investor Day message: "Disciplined Growth Focused on Profitable Renewables Projects"

https://www.avangrid.com/investors/investors/earningreleases

Avangrid Statement on Park City Wind Offshore Project

10/02/2023

ORANGE, Conn.--(BUSINESS WIRE)-- Avangrid, Inc. (NYSE: AGR), a leading sustainable energy company and member of the Iberdrola Group, today issued the following statement regarding the filing of agreements with the Connecticut Electric Distribution Companies to terminate power purchase agreements for the Park City Wind offshore project.

“One year ago, Avangrid was the first offshore wind developer in the United States to make public the unprecedented economic headwinds facing the industry including record inflation, supply chain disruptions, and sharp interest rate hikes, the aggregate impact of which rendered the Park City Wind project unfinanceable under its existing contracts.

“Since that time, Avangrid has been transparent and collaborative, working diligently with state and federal officials and stakeholders to find solutions to the economic challenges facing Park City Wind as we continued to advance the permitting and development of the project. After exploring all potential solutions to the financial challenges facing the project, and engaging in good-faith and productive discussions with Connecticut state officials regarding these challenges, it is clear the best path forward for Park City Wind is in the termination of the Power Purchase Agreements and a rebid of the project.

“Pursuant to the contracts, Avangrid and the Connecticut Electric Distribution Companies have agreed to terminate the PPAs which will allow all parties an opportunity to pursue an expedient path forward.”

About Avangrid: Avangrid, Inc. (NYSE: AGR) aspires to be the leading sustainable energy company in the United States. Headquartered in Orange, CT with approximately $41 billion in assets and operations in 24 U.S. states, Avangrid has two primary lines of business: networks and renewables. Through its networks business, Avangrid owns and operates eight electric and natural gas utilities, serving more than 3.3 million customers in New York and New England. Through its renewables business, Avangrid owns and operates a portfolio of renewable energy generation facilities across the United States. Avangrid employs more than 7,500 people and has been recognized by JUST Capital in 2021, 2022 and 2023 as one of the JUST 100 companies – a ranking of America’s best corporate citizens. In 2023, Avangrid ranked first within the utility sector for its commitment to the environment. The company supports the U.N.’s Sustainable Development Goals and was named among the World’s Most Ethical Companies in 2023 for the fifth consecutive year by the Ethisphere Institute. Avangrid is a member of the group of companies controlled by Iberdrola, S.A. For more information, visit avangrid.com.

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https://www.offshorewind.biz/2023/09/01/new-york-offshore-wind-developers-ask-for-inflation-related-price-relief-nyserda-argues-some-requests-not-tied-to-inflationary-pressures/

New York Offshore Wind Developers Ask for Inflation-Related Price Relief, NYSERDA Argues Some Requests 'Not Tied to Inflationary Pressures'

September 1, 2023, by Adrijana Buljan

This summer, the developers of the Sunrise Wind (Ørsted and Eversource) and Empire Wind 1 & 2 and Beacon Wind projects (Equinor and BP) filed petitions with the New York State Public Service Commission (PSC), seeking price adjustments to their contracts with the New York State Energy Research and Development Authority (NYSERDA).

In response to the petition filings, NYSERDA filed a document with estimates on how much the requested modifications would increase the strike prices of the four offshore wind farms and also noted that some components of the petitioners' requests were not directly related to inflationary pressures.

In this article:

- The increase in strike prices for Empire Wind 2 and Beacon Wind would amount to over 60 per cent if all requests are accepted.
- NYSERDA in favour of inflation- and global market conditions-related price adjustments.

The developers requested enhanced terms in their offshore renewable energy credit (OREC) contracts that would adjust for inflation, and also include interconnection cost adjustment, with the joint venture between Equinor and BP also requesting an extension of the contract by five years for the 810 MW Empire Wind 1 offshore wind farm (from 25 to 30 years).

In their petitions, the developers said that without price adjustments their offshore wind projects might not be able to move forward, with Ørsted and Eversource saying that without this intervention *"it would not be able to obtain a final investment decision (FID) allowing it to fully construct the Project"* and the Equinor-BP joint venture noting that price adjustments would *"restore the Projects' ability to attract the capital required for them to move forward"*.

However, in its response, NYSERDA argues that some components of the companies' requests do not completely align with the relief in inflationary pressures on which the petitions are based.

"[The] relief requested by the Petitions includes a number of distinct components, each of which has an individual impact on strike price. Some of those components appear less appropriate to include in an adjustment", NYSERDA stated.

For the requests made by both developers to apply an interconnection cost-sharing term, NYSERDA says that they *"appear designed to make those projects whole for changes (whether or not related to inflation) to one particular aspect of project costs, rather than to address the market-wide, unforeseeable inflationary pressures that have affected all aspects of projects"*. NYSERDA added that the increases in interconnection costs would be, at least partially, mitigated through the inflation adjustment formula.

Furthermore, as Equinor and BP asked for a contract term extension for Empire Wind 1 and a Consumer Price Index (CPI)-based escalator for the duration of the contract for the 1.26 GW Empire Wind 2 and 1.23 GW Beacon Wind agreements, NYSERDA argues that these requests do not seem to be tied to the market-wide inflationary pressures and that they are *"not well-connected to the circumstances underpinning the request"*.

"Finally, the change to the weighting factor of the inflation adjuster from 80% to 100% proposed by Empire/Beacon exposes ratepayers to inflation's entire effects, whereas it could be more appropriate for at least some of inflation's effects to be borne by developers", NYSERDA said.

As for Ørsted and Eversource's 924 MW Sunrise Wind, the developers have requested that an inflation adjustment and interconnection cost adjustment mechanism similar to those included in NYSERDA's third offshore wind solicitation be applied to the project's strike price. According to NYSERDA, the interconnection cost adjustment requested by the Sunrise Wind project is estimated to have a significantly smaller impact on price than the inflation adjustment.

In its response to the petitions, filed with the New York PSC, NYSERDA has also provided estimated adjusted strike prices based on the relief mechanisms proposed by the developers, according to which implementing all the requests for all four projects would result in an increase of the weighted average strike prices by 48 per cent.

Looking at the price impact per developer, Ørsted and Eversource's request is equivalent to a 27 per cent increase to its existing strike price based on current index values, while Equinor and BP's requests for their three offshore wind farms would result in a 54 per cent increase on average across their portfolio of projects.

The Empire Wind 2 and Beacon Wind projects are estimated to have the biggest increase in strike prices if the requests in the petitions are approved, as the strike price for Empire Wind 2 would go up by 66 per cent and Beacon Wind's strike price would jump by 62 per cent, according to NYSERDA's estimates.

Project	Original Strike Price ($/MWh)	Adjusted Strike Price ($/MWh)	Strike Price Increase
Sunrise Wind	$110.37	$139.99	+27%
Empire Wind 1	$118.38[34]	$159.64[35]	+35%
Empire Wind 2	$107.50	$177.84	+66%
Beacon Wind	$118.00	$190.82	+62%
Empire/Beacon portfolio (Wtd. Avg.)	$114.43	$176.36	+54%
Portfolio (Wtd. Avg.)	$113.40	$167.25	+48%

NYSERDA

Aside from the components of the petitions for relief that are found not to be in line with the basis of the petitions that refer to inflation and adverse global market conditions, NYSERDA has also made the case for price adjustments to strengthen the offshore wind projects, as well as protect consumers, moving forward.

"[If] no price adjustment is made, progress to Climate Act targets would be slowed, opportunities to realize earlier grid reliability and health benefits, as well as substantial economic development, would be missed", NYSERDA states.

Inflation adjustment mechanisms were included in the last solicitations, so applying a price adjustment that implements similar principles would be consistent with the approach already taken recently. Furthermore, including a price adjuster that is based on dynamic indices would safeguard projects from future inflation and would consequently benefit ratepayers if inflationary trends reverse going forward, according to NYSERDA.

NYSERDA has pointed out that inflation, as well as certain market-wide developments and macroeconomic conditions affecting offshore wind such as supply chain bottlenecks and equipment costs, could not have reasonably been built into the prices bid into prior solicitations.

"Accordingly, applying an adjustment designed to adjust specifically for those matters would not undermine the competitiveness of prior solicitations or harm non-awardees in prior solicitations, nor would it be expected to provide a windfall to developers given that a well-designed price adjustment would correlate with actual cost exposures faced by projects", NYSERDA said.

BN 09/05 15:22 Orsted Ready to Abandon US Wind Projects Without Help (Correct)

Orsted Ready to Abandon US Wind Projects as It Asks for Help (3)
2023-09-05 18:30:46.865 GMT

By Priscila Azevedo Rocha and Todd Gillespie
(Bloomberg) -- Orsted A/S said it's prepared to walk away from US projects unless the White House guarantees more support, highlighting the myriad challenges facing wind-energy developers in the country.
The US, far behind Europe and China in the race to build offshore wind, is targeting a jump to 30 gigawatts by the end of the decade fromnext to nothing now. While the Biden administration has touted its landmark clean-energy subsidy program to kick-start projects, developers must ensure a large chunk of components are US-made to take full advantage of the incentives, and that's proving hard to achieve.
"We are still upholding a real option to walk away," Orsted Chief Executive Officer Mads Nipper said in an interview in London. "But right now, we are still working toward a final investment decision" on projects in America.
The Danish firm has had a turbulent few months, with supply-chain glitches and soaring interest rates weighing on US plans. Shares fell 8.3% Tuesday, bringing the year-to-date decline to 37%.
While offshore farms are seen as critical to ridding the US power grid of fossil fuels and avoiding the worst effects of climate change, they're also extremely capital- and labor-intensive. In order for the industry to bring future projects to fruition, it's "inevitable" that consumer prices for energy will increase, Nipper said.
"And if they don't, neither we nor any of our colleagues are going to build more offshore," Nipper said. "It's very simple."
It's a tough time for offshore wind globally, with costs for steel and other materials spiraling higher just as countries push to add more turbines. Large projects by the likes of Vattenfall AB and Iberdrola SA have already been scrapped this year.
Read More: The Great US Offshore Wind-Power Boom Has Begun to Falter
Orsted's delays were triggered by bureaucratic uncertainties during the previous US administration and were intensified by supply-chain disruptions during the Covid-19 pandemic. Biden's push on clean energy helped accelerate some plans, but high interest rates and delays in procuring foundations, known as monopiles, for its wind turbines slowed developments even more.
Because final investment decisions weren't made and the projects were being funded by the company's balance sheet, the fact that long-term interest rates in the US soared above 3% means Orsted's cost of capital is higher.

“For a company like ours, where the targeted range of returns is 150 to 300 basis points above our cost of capital, it has essentially made this extremely tough,” Nipper said.

Nipper said Orsted couldn’t have predicted the industry turmoil, yet an investor selloff saw the company lose $8 billion in value last week after impairments were booked on several US projects. Longer-term plans also are at risk, with developments near New Jersey and Delaware not investible right now, he said.

“We have spent money essentially since 2018 and also made supplier commitments,” Nipper said. “We have also said to our investors: We will take a forward-looking view and if you consider these costs really sunk, then actually the forward-looking business case is comfortable for this portfolio of projects.”

Despite shareholder concern, the CEO said he’s had the support of the board since the stock price slumped. JPMorgan Chase & Co. says it hosted a roadshow with the firm Monday, and it highlights concern around the risk of further impairments.

The bank said the profit warning was mainly company specific, but there’s a wider read-across on higher rates.

Read More: Orsted Shares Plunge as Company Warns of $2.3 Billion US Hit

Under the Inflation Reduction Act, Orsted and other developers can already tap into tax credits generally worth 30%. At issue is the ability to claim additional bonus credits under the law that reward developers for using domestic content and projects that benefit so-called energy communities, such as those with coal mines and plants.

Nipper has asked the White House to guarantee subsidies without the domestic content requirement at first and requested extra time to overcome the difficulties in sourcing American-made material.

“What we proposed was a grace period, say, so give us three to five years,” the CEO said. “Right now, it can’t deliver.”

Biden administration officials working to implement the Inflation Reduction Act’s tax provisions have emphasized that the domestic content bonus is an added incentive meant to help spur new clean-energy supply chains inside the US.

The law “includes critical incentives to promote clean energy development while ensuring that US manufacturers and workers benefit from the growth of the clean energy economy,” Treasury Department spokeswoman Ashley Schapitl said. The agency “is laser-focused on implementing these landmark incentives in a way that follows the law and its underlying goals.”

--With assistance from Jennifer A. Dlouhy.

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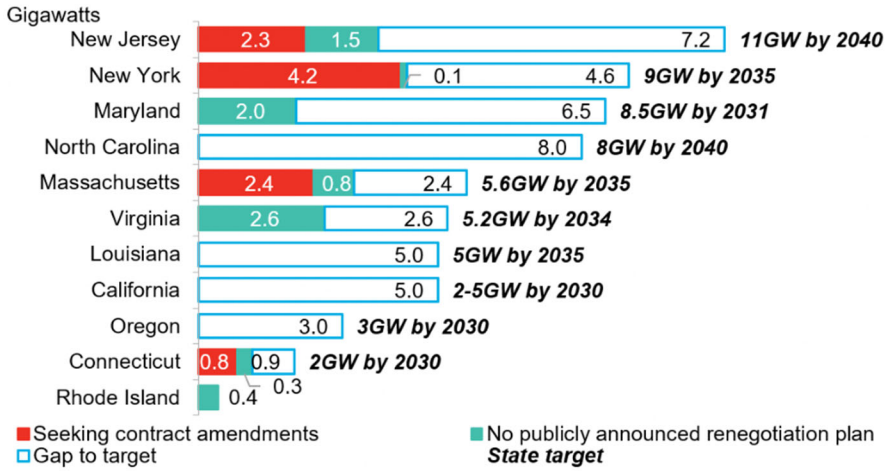
Offshore Wind Goals in US Are Imperiled by Deal Revisions: BNEF
2023-07-10 14:00:00.0 GMT

By Atin Jain
(BloombergNEF) -- Several US states face a growing risk of missing their offshore wind goals due to a spate of contract renegotiation or cancellation attempts by project developers citing rising costs.
New York state has a target to add 9 gigawatts of cumulative offshore wind capacity by 2035 and contracted 4.36GW of projects in its two concluded solicitations. But renegotiation attempts mean that 95% of the contracted capacity is at risk of delays. Neighboring Massachusetts sees 75% of contracted capacities being delayed by renegotiation attempts. In Connecticut it's 73%. New Jersey, which is targeting of 11GW, risks delays to 60% of its contracted pipeline.
About 9.7GW of US offshore wind projects, or just over half of the 17.8GW total contracted, face delays, and more projects may soon face the same fate. Developers such as Avangrid, Shell-Ocean Winds, BP-Equinor and Orsted-Eversource have cited deteriorating economics due to rising costs in trying to renegotiate or cancel contracts.
The renegotiation efforts mean ambitious goals by state governments and the Biden administration to achieve 30GW of offshore wind capacity by 2030 are drifting further away from reality. The current situation highlights the challenges and complexities inherent in developing large-scale offshore wind projects.

Status of contracted offshore wind capacity and targets across US states



Source: BloombergNEF, news reports, company petitions

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Markus KrebberMarkus Krebber • 2nd• 2ndCEO, RWE AGCEO, RWE AG

1w • 1w •

Follow

Is there a perfect storm brewing in the offshore wind industry?

In recent weeks, for the first time, offshore wind projects in Europe and the U.S. have been stopped, mainly citing cost increases. In other news, turbine manufacturers were once again in the red in their latest quarterly reports, with losses running into billions.

This is not good news, it's in fact the worst-case scenario for the energy transition when large projects that have already been awarded are not realised as planned. Happening at a time when the entire offshore industry has to scale up to achieve expansion targets, this quickly calls into question the achievement of climate protection goals.

This dilemma is fuelled by a combination of factors, including cost increases due to ongoing inflation and rising interest rates, as well as structural supply shortages and the strained state of supply chains.

This development must serve as a wake-up call for policymakers to adapt the regulatory framework to market realities. Five areas of action can help navigate through the storm.

1. A frontloaded auction schedule can increase the investment certainty for the whole industry. That includes the early auctioning of large sea areas.

2. Grid connection of offshore wind farms have to be accelerated and developers need to have certainty about connection dates.

3. Allowance for dual route-to-market: 2-sided Contracts for Difference (CfDs) with inflation indexation as one element, and a second element which allows the marketing of offshore power to industrial customers through private PPAs. In addition, qualitative auction criteria can strengthen the European supply chain, sustainability, and deliverability.

4. When auction schemes cap budgets, for example like CfDs in the UK, governments need to recognise the inflationary environment and that costs have gone up significantly. Sticking with the old assumptions of nominal cost reduction will simply slow down or stop offshore technology deployment.

5. Direct and indirect financial support to stimulate investments in European manufacturing capacities and a master plan to secure access to vital raw materials.

In a nutshell: we need a framework that allows for more investment certainty for both manufacturers and

developers.

At RWE, we are building and driving forward the development of several projects where we have been awarded the seabeds: in Germany, the UK, the Netherlands, Denmark, Ireland, Poland and the U.S. To deal with the challenging market situation, securing financing and strong relationships with your supply chain are key.

However, the right framework and policies, as outlined here, are imperative for offshore wind energy to realise its fullest potential in the future.

SAF Group created transcript of comments by BlackRock CEO Larry Fink with Carl Quintanilla and Jim Cramer on CNBC Squawk on the Street on Oct 13, 2023

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

At 7:36am MT, Fink "there is no question we have a better understanding of the texture of what is going on in the markets through our ETF platform and our global network. And, unquestionably we are seeing, my barometer of hope and fear. Well all the geopolitical issues, we are seeing more fear, more people pulling back."

At 7:37am MT, Fink "*we are seeing a recalibration. And I think I said a couple quarters ago, people are reassessing all their dependencies. And one of their great dependencies the world still has is the amount of manufacturing and assembling in China. Technology is allowing us to recalibrate that. And then we're also recalibrating it. Look at the growth rates in India. Look at the growth rates in Mexico, great opportunities there*." Cramer "*You know Mexico very well. India was quite impressive this quarter."* Fink "*And that's where money is going to*."

At 7:46am MT, Cramer "*Graham Allison, one of my professors I'm so old, said we've got to solve the China thing before it really goes off the rails. Is there a way to solve China?"* Fink "*Look, there is a recalibration of the relationship going on and if you're in a recalibration of a relationship, it creates this type of stress. I think we woke up that the relationship was too asymmetric. Our trade imbalance continues. We had a trade agreement in 2017, China has only lived up to a portion of what they had committed to. They're not investing, they're not buying more and more US goods. We're trying to make our trade more consistent with each other. They should be buying more of our agriculture. They should be reaching out to finding ways to deepen the relationship. You know we had six US senators in China this past week. We are trying to have a dialogue to recalibrate it and, at the same time, let's be clear China is still supporting our enemy in Russia. You talked about that earlier. You know if China was a corporation and they were dealing with our enemy, we would consume our business elsewhere. So I put it in that calibre of business. And that's what's accelerating this movement of recalibrating supply chains. If China became supportive of their clients and their largest clients are the US and Europe and they're supporting their clients enemy, or it appears they're supporting our enemy. And they weren't as loud as they should have been to the issues in Israel. You know, that forces everybody to say should I recalibrate my relationship more. And I think, you know I'm always a believer it 's economy and we're going to see a systematic more outflows out of China if they don't reorient themselves to working with their clients. And so I'm not saying it's going to work out, and it's going to get worse.*

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

https://www.db.com/news/detail/20220907-christian-sewing-s-keynote-at-the-handelsblatt-banken-summit-2022?language_id=1

News September 7, 2022

Christian Sewing's keynote at the Handelsblatt Banken Summit 2022

- Check against delivery -

Dear Mr Matthes, Ladies and Gentlemen,

I am delighted to be with you today at a time that is more challenging than anything I have experienced in more than 30 years of banking. While the Covid pandemic proved to be a temporary shock to the world economy, Russia's war against Ukraine has destroyed a number of certainties on which we built our economic system over the past decades.

- The brakes have been applied to globalisation and, in the face of major geopolitical tensions, it is unlikely to pick up its old momentum any time soon.
- As a result, many seemingly perfect global value and supply chains have been disrupted.
- The workforce, which for a long time was thought to be available without limit, has become a bottleneck factor worldwide.
- At the same time, electricity and gas have become scarce and extremely expensive. Energy is set to stay an expensive commodity in Europe for some time. This represents a structural competitive drawback and it is a threat to our economy. In the long term, we will need to respond with structural solutions.

These points are the most important reasons for soaring inflation. As a result, we will no longer be able to avert a recession in Germany.

Yet we believe that our economy is resilient enough to cope well with this recession – provided the central banks act quickly and decisively now. Right now many people still have their savings to fall back on to pay the higher prices; many companies are still sufficiently financed. But the longer inflation remains high, the greater the strain and the higher the potential for social conflict.

Three lessons

This combination of short and longer-term challenges seems unique at this point. And while it is essential we meet the short-term needs, we also have to explore what this means for our long-term ability to compete. The greatest complexity still lies ahead of us when we begin to draw the real lessons of the past few years. In my view, there are three main lessons:

Firstly, we have seen how dangerous it is for us in Europe to become too dependent on individual countries or regions. At the moment the main focus is on energy and raw material imports from Russia – and rightly so. We must do everything we can to ensure that our cars, our heating and our factories are not only able to run when an autocrat in the Kremlin is favourably disposed towards us. All efforts by politicians and companies to change this deserve unconditional support.

That is not enough, though. When it comes to dependencies, we also have to face the awkward question of how to deal with China. Its increasing isolation and growing tensions, especially between China and the United States, pose a considerable risk for Germany.

China is a cornerstone of our economy. About 8 percent of our exports go to China and 12 percent of our imports are from the country. More than a tenth of the sales of all DAX-listed companies are from China. At the latest during the pandemic it has become clear just how much our supply chains rely on China. Reducing this dependency will require a change no less fundamental than decoupling from Russian energy.

At the same time – and this is my second lesson – we need to tackle the climate crisis with much more resolve than to date. Climate change is already causing damage of gigantic proportions. In light of Covid and the war in Ukraine, the danger is that the topic will slip down the list of priorities. That would be the biggest mistake we could make, though.

Fighting the climate crisis is a generational task that will radically change the economy and society. Every company will have to face the issue – not just out of its responsibility to society, but to secure its own continued existence. Those who fail today to put sustainability firmly at the centre of their strategy will – in ten years – have trouble selling their products, finding employees or attracting investors. They will disappear from the market.

The third lesson, I believe, is that we have been under the illusion for the past 30 years that we could live forever in an ever more globalised world with no major conflicts and with steady growth. Francis Fukuyama has often been criticised for equating the end of the Cold War with the "end of history". But de facto we acted as if this thesis was correct; we have been acting as if the world was on its way to becoming one big village where everyone is interested in economic cooperation because, after all, everyone benefits from it. That has stopped being the case for some time now, though.

The truth is that 30 years of presumed calm will now be followed by a period of heightened volatility with economic uncertainty, regular crises and geopolitical conflicts that are also likely to drag on for decades. Trouble spots are not cut off from the rest of the world; they impact other regions in a number of ways. As such, we must come up with holistic solutions that take this degree of interplay into account. Dealing with this complexity will be a great challenge for us. Good risk management is the order of the day.

“We must not leave the playing field and with it the access to global capital markets largely to foreign banks. The past few months should have taught us this. In Germany, we must not allow ourselves to add a further dependency – access to finance – to our current dependencies on gas, raw materials and supply chains.”Christian Sewing, CEO

National feat of strength
Let us not delude ourselves: we certainly have our work cut out for us if we are to accomplish these three tasks – reducing dependencies, dealing with permanently higher volatility and driving the historic transformation of our economy. We will only succeed through a concerted joint effort, with politics, business and society all working closely hand in hand.
The financial sector must and can play a crucial role.

We need banks that are able to finance these mammoth tasks, while protecting their clients against risks and being reliable partners, accompanying clients worldwide.

And for this we need a domestic financial sector that stands on its own two feet and can assert itself against its global competitors. We must not leave the playing field and with it the access to global capital markets largely to foreign banks. The past few years should have taught us this. In Germany, we must not allow ourselves to add a further dependency – access to finance – to our current dependencies on gas, raw materials and supply chains.

We have the means to prevent this, but we still have much to do. As a financial sector, we have already achieved a lot: we are much more stable and resilient today than we were ten years ago. We are profitable. Our industry has foregone relatively little profit in the first half of the year and even managed to increase revenues. And the loan defaults that the industry faces in the coming months should remain manageable because banks have taken the necessary provisions.

Progress in the financial sector is far from sufficient
That is far from enough, though, if the German financial sector is to play a leading role in the long term. What we need is:

- For us banks to work harder at becoming even more efficient and focusing even more on clients, especially in digital services.
- We need reliable regulation that does not always create higher hurdles and tie up more capital than necessary – capital that is needed right now to finance the economy.
- And sooner or later we will also need consolidation, not nationally, but Europe-wide. Size counts in banking – and if we don't want to hand over the playing field to the Americans, Europe must create the right conditions for big banks. I can only repeat what I’ve said before: both the European banking union and the capital markets union are essential here.

The above points are not new, but they are becoming more urgent. We are actually very well equipped so there is no reason to talk ourselves down. We are operating in an economy that has shown enormous resilience and that will also navigate the upcoming recession – because corporate balance sheets are strong, and debt is low by international standards. This economy has great potential as long as we focus now on aligning ourselves for the long term and on how to minimise the threat of de-industrialisation: with less regulation, more courage and more pragmatism; this attitude is incredibly important.

And that goes for banks, too. We have proven banks can be part of the solution. We can do much more, though. Before the financial crisis of 2007, just 15 years ago, Europe's banks were more profitable than their competitors in the US. Since then, the Americans have unrelentingly left us behind. We could, of course, agonise over this. Instead, we should rather see it as an incentive to buck the trend. The dominance of American banks is no law of nature.

At Deutsche Bank, we are convinced that the way to achieve this is by being a strong partner to our clients. They need a bank that supports them in all kinds of environments, in all markets and all over the world. This is what we emphasised when we formulated our Global Hausbank aspiration. We have radically transformed our business since 2019 and strategically repositioned ourselves in line with this aspiration.

We are convinced that this strategy will be especially effective in volatile times – because now is the moment when advice and expertise are highly sought after.

And this does not apply to us alone. Despite all the differences between the banks in Germany, we have one thing in common: we were there for our clients during the pandemic, we were there for our clients when Russia invaded Ukraine and we continue to be there – in these volatile times that urgently call for sustainable transformation. We have regained a great deal of trust. Let us work together to create the conditions for renewed dynamic growth across our entire economy.

https://www.japantimes.co.jp/news/2023/10/11/japan/science-health/kishida-hay-fever/

Japan to revitalize forestry industry to counter hay fever

Prime Minister Fumio Kishida attends a ministerial meeting on hay fever at the Prime Minister's Office on Wednesday. | KYODO

BY TOMOKO OTAKE
STAFF WRITER

Oct 11, 2023

Japan has pledged to reduce cedar pollen — the root cause of a seasonal allergy that afflicts 40% of the country — by revitalizing the country's shrinking forestry industry.

A package of policies released Wednesday includes boosting demand for cedar tree products in buildings through the revision of the Building Standards Law, which takes effect next April, as well as greater use of foreign workers in forestry. The government will also subsidize firms buying high-level logging machinery, as well as push for more people in the farming and construction sectors to enter the forestry trade.

Pollen carried by the wind affects many allergy sufferers living in cities. As such, during this fiscal year ending in March the government will designate “high-priority areas” near major urban areas where measures such as cutting cedar trees and replacing them with other tree varieties that produce less pollen will be carried out ahead of other areas, officials said.

“We will aim to resolve hay fever, which is a social issue, and revitalize local communities through the promotion of forestry,” Prime Minister Fumio Kishida told a ministerial meeting.

In May, under Kishida’s initiative, the minister-level meeting decided to halve the nation's pollen count in 30 years by broadening the logging of artificially planted cedar trees from 50,000 hectares per year to 70,000 hectares.

A significant boost to the nation’s forestry industry is needed to achieve such an ambitious goal. The industry has been in constant decline for decades, with workers numbering a mere 44,000 in 2020 — less than a third of the level in 1980. As a result cedar-producing trees have not been utilized as timber and have been left to release allergens every year during the spring pollen season.

Through the new measures, the government wants to prevent the number of workers from decreasing further, officials said.

“*We have an opportunity to find ways to inspire long-form reading*” Heather Reisman, CEO of Indigo

SAF Group created transcript of comments by Heither Reisman (Founder, CEO of Indigo) with Amanda Lang on Taking Stock shown on Oct 14, 2023

Items in “*italics*” are SAF Group created transcript

Reisman “*I know at some point you want to talk about how I feel about this industry. There is more than ever that we can do, not just to connect people with the books they want to read but with the ideas they are trying to excavate. How they’re making sense of the world*.”

Reisman “*Books have been far more resilient than anybody imagined. I remember my first sleepless night, after I sold Kobo and it was a fabulous success, was wow, the e-reading business has gone from zero to 20% in 24 months, we’re going to have 50% of people. Well, guess what happened? E-books remain 17%, 18%. Audio books are there and they have grown, but they’re at 7%, 8%. Does this all take away? Yes and it does affect the economics. But the first point is the physical article remains a resilient business. It’s not as big as it was, when you didn’t have 20% going. That’s the underlying point – it’s more resilient than we think. That said, people’s attention spans are affected. We have an opportunity to play in that, right. We have an opportunity to find ways to inspire long-form reading. And that’s something I care a lot about.*

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

Reisman “*Suddenly I was hearing that we were getting famous for selling $550 barbecues. Well no, that is not who we are and it’s not what we’re getting famous for neither in price nor in event. It’s not a big secret that there was a little moment where somehow vibrators turned up in our store. And I remember being, no that is not who we are”.*

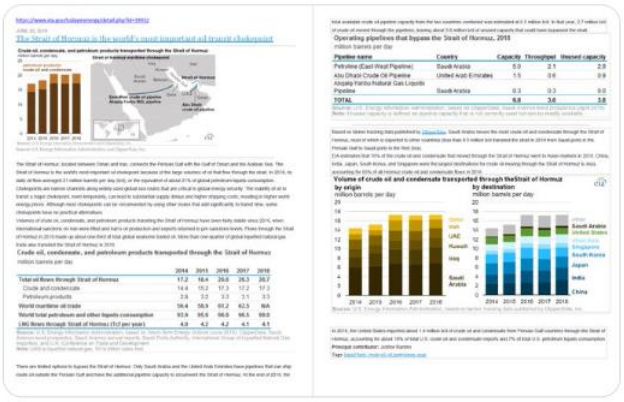
Dan Tsubouchi @Energy_Tidbits · 1h

Reminder any military conflict that interrupts tankers via Strait of Hormuz will have a huge impact.

It is the most important tanker transit chokepoint for #Oil #PetroleumProducts #LNG tankers.

See 👇@EIAgov Strait of Hormuz, it's 4-yrs old but stil makes the point.

#OOTT



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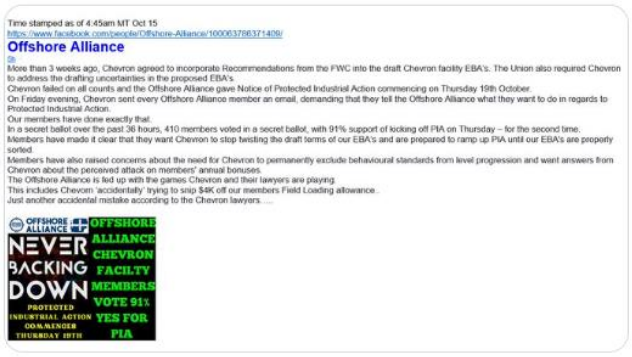
Dan Tsubouchi @Energy_Tidbits · 4h

Still on track for strike actions starting Thurs at Chevron 2.1 bcfd Gorgon & 1.2 bcfd Wheatstone #LNG.

Chevron & union agreed to FWC terms to end strike But haven't been able to paper deal in >3 wks.

See👇 Offshore Alliance today's update.

#OOTT #NatGas



1 3 1,252

Dan Tsubouchi @Energy_Tidbits · 15h

Surely Exxon's #Bakken is for sale soon.

$60b all-in with $PXD Permian.

Largest well inventory in Bakken core Tier 1 geology, no active drilling rigs since Covid, just been working DUCs & DUCs inventory gone now. Thx ND Lynn Helms.

See 👇 SAF transcript. #OOTT

> ***"ExxonMobil subsidiary, XTO in North Dakota, has the largest well inventory potential in the core area in North Dakota. And they have not had a drilling rig operating since Covid. So they've been just exploiting their inventory of DUC wells. That inventory is gone now"*** **North Dakota's Lynn Helms.**
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> SAF Group created transcript of Comments by North Dakota Director of Mineral Resources, Lynn Helms, Ph.D., and Justin J. Kringstad, Director North Dakota Pipeline Authority on North Dakota's Monthly Director's Cut from their webcast on Oct 12, 2023. https://www.dmr.nd.gov/dmr/oilgas/directorscut
>
> Items in "*italics*" are SAF Group created transcript.
>
> At 17:05 min mark, Helms "*The question was how does a major acquisition like that [Exxon/Pioneer] potentially affect North Dakota supply. And one of our concerns has been that the ExxonMobil subsidiary, XTO in North Dakota, has the largest well inventory potential in the core area in North Dakota. And they have not had a drilling rig operating since Covid. So they've been just exploiting their inventory of DUC wells. That inventory is gone now. And so a little bit concerned that an acquisition like that, which is Permian focused, might tend to pull capital away from that core area drilling in North Dakota and lead to really flat to declining production in the core area in North Dakota. XTO sold all their Tier 2, Tier 3 acreage, Chord picked that up and so that's going to get developed. They're respacing all of that into 3-mile laterals and very actively going to pursue that next year. But they have the largest inventory of Tier 1 core assets, and something like that merger is going to tend to pull capital away from that. So it may delay some of that development in the core area, which just means slower growth in North Dakota. But it's not necessarily all bad, they haven't talked about walking away from North Dakota but it could certainly delay development of some of those Tier 1 assets".*
>
> Prepared by SAF Group https://safgroup.ca/news-insights/

2 · 1 · 12 · 3,158

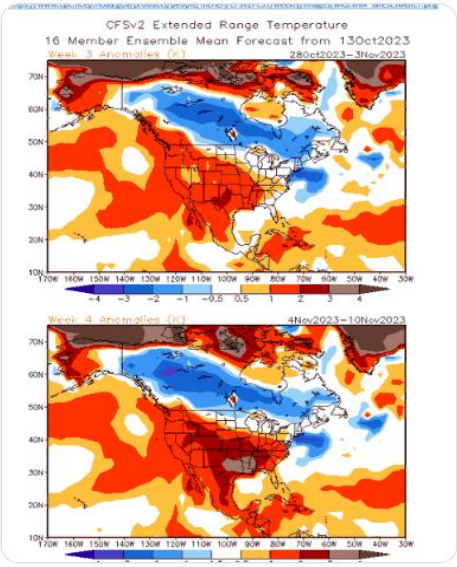
Dan Tsubouchi @Energy_Tidbits · 19h

Weather forecasts aren't always right, but 👇 @NOAA latest update still sees warm start to Nov.

Dec/Jan/Feb are the key months to be cold but a warm Nov can keep a lid on tone & price for #NatGas until there is some colder weather.

#OOTT

cpc.ncep.noaa.gov/products/peopl...



3 · 1,750

Dan Tsubouchi @Energy_Tidbits · 23h

Oil Bulls will like this.

2nd week of very low #Oil in floating storage.

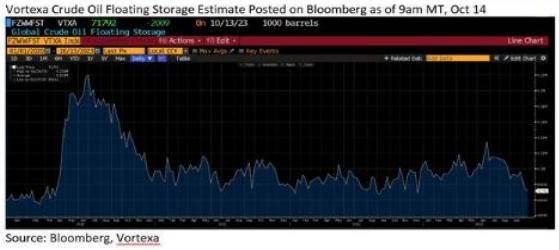
10/13/23 at 71.79 mmb & 10/06/23 at 73.80 mmb, about 60 mmb below recent 06/23/23 peak.

And not huge revisions to past 7-wks, mix ranging from +3.24 mmb to -3.31 mmb.

...

Show more

Vortexa Crude Oil Floating Storage Estimate Posted on Bloomberg as of 9am MT, Oct 14



Source: Bloomberg, Vortexa

Posted Oct 14, 9am MT

Date	Last Px
Fr 10/13/2023	71792
Fr 10/06/2023	73801
Fr 09/29/2023	84139
Fr 09/22/2023	95814
Fr 09/15/2023	90352
Fr 09/08/2023	91791
Fr 09/01/2023	93116
Fr 08/25/2023	86815
Fr 08/18/2023	102.337k
Fr 08/11/2023	108.099k
Fr 08/04/2023	112.16k

Oct 7, 9am MT

Date	Last Px
Fr 10/06/2023	70555
Fr 09/29/2023	86846
Fr 09/22/2023	98074
Fr 09/15/2023	93663
Fr 09/08/2023	93249
Fr 09/01/2023	92371
Fr 08/25/2023	85005
Fr 08/18/2023	102.389k
Fr 08/11/2023	108.306k
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Fr 07/28/2023	113.137k

Sept 30, 9am MT

Date	Last Px
Fr 09/29/2023	77932
Fr 09/22/2023	89388
Fr 09/15/2023	85808
Fr 09/08/2023	86258
Fr 09/01/2023	84147
Fr 08/25/2023	81072
Fr 08/18/2023	100.343k
Fr 08/11/2023	105.783k
Fr 08/04/2023	111.572k
Fr 07/28/2023	111.529k
Fr 07/21/2023	111.665k

Source: Bloomberg, Vortexa

5 19 91 26.5K

Dan Tsubouchi @Energy_Tidbits · Oct 14

"we have an opportunity to find ways to inspire long-form reading" @HeatherReisman.

never heard term long-form reading.

she certainly knows the book business challenge so hope more than booklovers rally behind a great Cdn brand.

much more in this great @AmandaLang interview

***"We have an opportunity to find ways to inspire long-form reading"* Heather Reisman, CEO of Indigo.**

Heather Reisman
@HeatherReisman

Amanda Lang
@AmandaLang

SAF Group created transcript of comments by Heither Reisman (Founder, CEO of Indigo) with Amanda Lang on Taking Stock shown on Oct 14, 2023

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

Reisman "*I know at some point you want to talk about how I feel about this industry. There is more than ever that we can do, not just to connect people with the books they want to read but with the ideas they are trying to excavate. How they're making sense of the world.*"

Reisman "*Books have been far more resilient than anybody imagined. I remember my first sleepless night, after I sold Kobo and it was a fabulous success, was wow, the e-reading business has gone from zero to 20% in 24 months, we're going to have 50% of people. Well, guess what happened? E-books remain 17%, 18%. Audio books are there and they have grown, but they're at 7%, 8%. Does this all take away? Yes and it does affect the economics. But the first point is the physical article remains a resilient business. It's not as big as it was, when you didn't have 20% going. That's the underlying point – it's more resilient than we think. That said, people's attention spans are affected. We have an opportunity to play in that, right. We have an opportunity to find ways to inspire long-form reading. And that's something I care a lot about.*

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

1 1,084

Dan Tsubouchi @Energy_Tidbits · Oct 13

Overlooked #Bakken upside to value of contiguous acreage.

3-mile horizontals plus new completions = Bakken Tier 2 wells performing as well as Tier 1.

See 👇SAF transcript. North Dakota's L:ynn Helms yesterday reinforces Harold Hamm Aug comments on Tier 2 upside.

#OOTT

Bakken 3-mile well advancements mean "the Tier 2 geology is performing just as good as the Tier 1 wells was" North Dakota's Lynn Helms

SAF Group created transcript of Comments by North Dakota Director of Mineral Resources, Lynn Helms, Ph.D., and Justin J. Kringstad, Director North Dakota Pipeline Authority on North Dakota's Monthly Director's Cut from their webcast on Oct 12, 2023. https://www.dmr.nd.gov/dmr/oilgas/directorscut

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

At 20:15 min mark, Helms "the question was what's the reason for the migration out of Tier 1 into Tier 2. Probably #1 reason is that high gas/oil ratio in Tier 1 area. It's about 90% drilled up so there's only about 10% of the potential drilling slots left in that Tier 1 geology. And the gas/oil ratios are very high. And so with the new, with the development of the ability to easily and for very little incremental cost drill 3-mile laterals and the performance of some of the new completion technologies, the Tier 2 geology is performing just as good as the Tier 1 was. And so the incentive has been very strong because of the low gas/oil ratios and the high well IPs and the economics out there to go drill 3-mile laterals in Tier2. It's actually more economic in terms of infrastructure and capital deployment. It's exciting news and we think ultimately that's going to spill over into the Tier 3 geology. We see one or two rigs working out there. And some leasing activity. Folks are seeing landmen and getting leasing offers up in Divide County. And been a long time since that was happening.

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

Excerpt from SAF Group Aug 20, 2023 Energy Tidbits memo

Is Harold Hamm the only one drilling Tier 2 wells as good as Tier 1 wells?

It is worth noting some new commentary from North Dakota on Bakken Tier 2 wells. North Dakota has been highlighting how Bakken drilling has been moving away from the core to Tier 2 and Tier 3 lands and that is leading to lower productivity wells as wells as higher gas/oil ratio in the wells. BUT in the Thursday press conference, North Dakota's Lynn Helms said something very different. Helms came out and said that drilling and completion technology development is leading to Tier 2 wells performing better and now performing like Tier 1 acreage. He referenced Harold Hamm having this success but surely, the way technology gets quickly adopted, Hamm isn't the only one having this success. If so, it speaks to better Bakken oil potential in North Dakota. This will be one to watch what we see from the public Bakken players. Here is the transcript we created of Helms comments on this point. At 1:05 min mark, Helms "*… what we're seeing is the migration of the drilling and completion activity out of the core and into the Tier 2 area and somewhat out into the Tier 3 areas. I think if you were at Mr. Hamm's event earlier in the week or late last week, you also heard comments from him that a lot of that Tier 2 acreage with the newer drilling and completion technologies is now performing like Tier 1 acreage.*" [Note Helms was referring to Harold Hamm's Aug 10 event promoting his new book "Game Changer: Our Fifty-Year Mission to Secure America's Energy Independence"]

Prepared by SAF Group

1 4 11 4,404

Dan Tsubouchi @Energy_Tidbits · Oct 13

"*we're going to see a systematic more outflows out of China if they don't reorient themselves to working with their clients [US, EU]*" $BLK CEO Fink.

How US/China plays out will be market story for years!

See 👇 SAF transcript.

Great interview @carlquintanilla @jimcramer
#OOTT

"we're going to see a systematic more outflows out of China if they don't reorient themselves to working with their clients [US & Europe]" BlackRock CEO Larry Fink.

SAF Group created transcript of comments by BlackRock CEO Larry Fink with Carl Quintanilla and Jim Cramer on CNBC Squawk on the Street on Oct 13, 2023

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

At 7:46am MT, Cramer "*Graham Allison, one of my professors I'm so old, said we've got to solve the China thing before it really goes off the rails. Is there a way to solve China?*" Fink "*Look, there is a recalibration of the relationship going on and if you're in a recalibration of a relationship, it creates this type of stress. I think we woke up that the relationship was too asymmetric. Our trade imbalance continues. We had a trade agreement in 2017, China has only lived up to a portion of what they had committed to. They're not investing, they're not buying more and more US goods. We're trying to make our trade more consistent with each other. They should be buying more of our agriculture. They should be reaching out to finding ways to deepen the relationship. You know we had six US senators in China this past week. We are trying to have a dialogue to recalibrate it and, at the same time, let's be clear China is still supporting our enemy in Russia. You talked about that earlier. You know if China was a corporation and they were dealing with our enemy, we would consume our business elsewhere. So I put it in that calibre of business. And that's what's accelerating this movement of recalibrating supply chains. If China became supportive of their clients and their largest clients are the US and Europe and they're supporting their clients enemy, or it appears they're supporting our enemy. And they weren't as loud as they should have been to the issues in Israel. You know, that forces everybody to say should I recalibrate my relationship more. And I think, you know I'm always a believer it 's economy and we're going to see a systematic more outflows out of China if they don't reorient themselves to working with their clients. And so I'm not saying it's going to work out, and it's going to get worse.*"

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

1 2 5 3,043

Dan Tsubouchi @Energy_Tidbits · Oct 13

Hola Mexico!

$BLK CEO Fink "*Look at the growth rates in India. Look at the growth rates in Mexico, great opportunities there.*" @jimcramer "*You know Mexico very well. India was quite impressive this quarter.*" Fink "*And that's where money is going to!*"

@SquawkStreet
#OOTT

2 6 2,401

Dan Tsubouchi @Energy_Tidbits · Oct 13

" unquestionably we are seeing, my barometer of hope and fear. Well all the geopolitical issues, we are seeing more fear, more people pulling back" $BLK CEO Fink just now on @SquawkStreet.

#OOTT

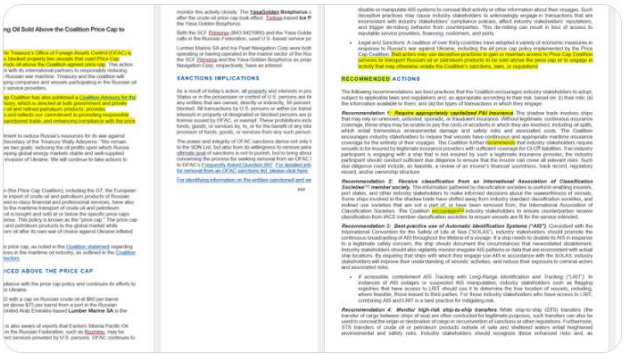
1 · 1 · 1,678

Dan Tsubouchi @Energy_Tidbits · Oct 13

1st sanctions applied by US of price cap on Russian #Oil

Gives a warning shot to separate Price Cap Coalition recommendations on shipping RUS oil & petroleum products that is "directed at both GOVERNMENT and private sector actors".

#OOTT



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Dan Tsubouchi @Energy_Tidbits · 7h

For those not near their laptops. At 0am MT,
@EIAgov released its #Oil #Gasoline #Distillates inventory as of Oct 6.
Table below compares EIA data vs
@business expectations and vs @APIenergy
yesterday. Prior to release, WTI was $84.70 #OOTT

Oil/Products Inventory Oct 6: EIA, Bloomberg Survey Expectations, API			
(million barrels)	EIA	Expectations	API
Oil	10.18	-1.40	12.94
Gasoline	-1.31	-1.00	3.65
Distillates	-1.84	1.00	-3.54
	7.03	-1.40	13.05
Note: Oil is commercial so builds in no change in SPR for the Oct 6 week			
Note: Included in the oil data, Cushing had a 0.32 mmb draw for Oct 6 week			
Source EIA, Bloomberg			
Prepared by SAF Group https://safgroup.ca/news-insights/			

1 1 2 1,000

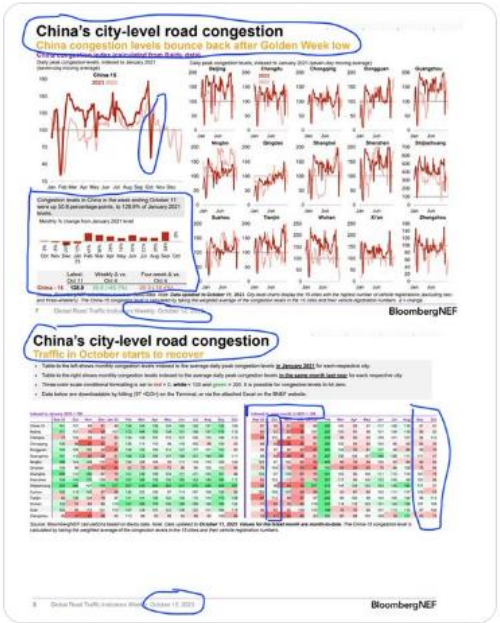
Dan Tsubouchi @Energy_Tidbits · 9h

"China congestion levels bounce back after Golden Week low"

But despite no Covid restrictions in 2023, China city-level road congestion for 1st 11 days in Oct are still only 91% of Oct 2021 levels.

Still room to go before recovery.

Thx @BloombergNEF.
#OOTT



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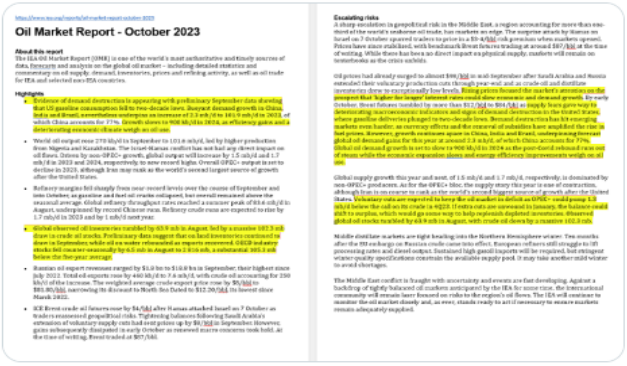
Dan Tsubouchi @Energy_Tidbits · 9h

#Oil supporters will like @IEA OMR Oct.

Yes, IEA highlights demand growth slows to 0.9 mmbd YoY in 2024.

But 2024 demand unchanged, OPEC+ countries generally complying, "massive draw" in global oil stocks in 2024, and voluntary cuts expected to keep oil market in deficit.

#OOTT



Oil Market Report - October 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

- Evidence of demand destruction is appearing with preliminary September data showing that US gasoline consumption fell to two-decade lows. Buoyant demand growth in China, India and Brazil, nevertheless underpins an increase of 2.3 mb/d to 103.9 mb/d in 2023, of which China accounts for 77%. Growth slows to 908 kb/d in 2024, as efficiency gains and a deteriorating economic climate weigh on oil use.
- World oil output rose 270 kb/d to September to 101.6 mb/d, led by higher production from Nigeria and Kazakhstan. The Israel-Hamas conflict has not had any direct impact on oil flows. Driven by non-OPEC+ growth, global output will increase by 1.5 mb/d and 1.7 mb/d in 2023 and 2024, respectively, to new record highs. Overall OPEC+ output is set to decline in 2023, although Iran may rank as the world's second largest source of growth after the United States.
- Refinery margins fell sharply from near-record levels over the course of September and into October, as gasoline and fuel oil cracks collapsed, but overall remained above the seasonal average. Global refinery throughput rates reached a successive peak of 83.6 mb/d in August, underpinned by record Chinese runs. Refinery crude runs are expected to rise by 1.7 mb/d in 2023 and by 1 mb/d next year.
- Global observed oil inventories tumbled by 63.9 mb in August, led by a massive 102.3 mb draw in crude oil stocks. Preliminary data suggest that on-land inventories continued to draw in September, while oil on water rebounded as reports recovered. OECD industry stocks fell closer to seasonally-by 6.5 mb in August to 2 816 mb, a substantial 101.2 mb below the five-year average.
- Russian oil export revenues surged by $1.0 bn to $16.0 bn in September, their highest since July 2022. Total oil exports rose by 460 kb/d to 7.6 mb/d, with crude oil accounting for 280 kb/d of the increase. The weighted average crude export price rose by $9/bbl to $65.80/bbl, narrowing its discount to North Sea Dated to $12.20/bbl, its lowest since March 2022.
- ICE Brent crude oil futures rose by $4/bbl after Hamas attacked Israel on 7 October as trade remained geopolitical risks. Tightening balances following Saudi Arabia's extension of voluntary supply cuts had sent prices up by $8/bbl in September. However, gains subsequently dissipated in early October as renewed macro concerns took hold. At the time of writing, Brent traded at $87/bbl.

Escalating risks

A sharp escalation in geopolitical risk in the Middle East, a region accounting for more than one-third of the world's seaborne oil trade, has markets on edge. The surprise attack by Hamas on Israel on 7 October spurred traders to price in a $5-8/bbl risk premium when markets opened. Prices have since stabilised, with benchmark Brent futures trading at around $87/bbl at the time of writing. While there has been no direct impact on physical supply, markets will remain on tenterhooks as the crisis unfolds.

Oil prices had already surged to almost $96/bbl in mid-September after Saudi Arabia and Russia extended their voluntary production cuts through year-end and as crude oil and distillate inventories drew to exceptionally low levels. Rising prices focused the market's attention on the prospect that higher for longer interest rates could slow economic and demand growth. By early October, Brent futures tumbled by more than $12/bbl to $84/bbl as supply fears gave way to deteriorating macroeconomic indicators and signs of demand destruction in the United States, where gasoline deliveries plunged to two-decade lows. Demand destruction has hit emerging markets even harder, as currency effects and the removal of subsidies have amplified the rise in fuel prices. However, growth continues apace in China, India and Brazil, underpinning forecast global oil demand gains for this year at around 2.3 mb/d, of which China accounts for 77%. Global oil demand growth is set to slow to 908 kb/d in 2024 as the post-Covid rebound runs out of steam while the economic expansion slows and energy efficiency improvements weigh on oil use.

Global supply growth this year and next, of 1.5 mb/d and 1.7 mb/d, respectively, is dominated by non-OPEC+ producers. As for the OPEC+ bloc, the supply story this year is one of contraction, although Iran is on course to rank as the world's second biggest source of growth after the United States. Voluntary cuts are expected to keep the oil market in deficit as OPEC+ could pump 1.8 mb/d below the call on its crude in 4Q23. If extra cuts are screwed in January, the balance could shift to surplus, which would go some way to help replenish depleted inventories. Observed global oil stocks tumbled by 63.9 mb in August, with crude oil down by a massive 102.3 mb.

Middle distillate markets are tight heading into the Northern Hemisphere winter. Ten months after the EU ban on Russian crude came into effect, European refiners still struggle to lift processing rates and diesel output. Sustained high gasoil imports will be required, but stringent winter-quality specifications constrain the available supply pool. It may take another mild winter to avoid shortages.

The Middle East conflict is fraught with uncertainty and events are fast developing. Against a backdrop of tightly balanced oil markets anticipated by the IEA for some time, the international community will remain laser focused on risks to the region's oil flows. The IEA will continue to monitor the oil market closely and, as ever, stands ready to act if necessary to ensure markets remain adequately supplied.

2 7 1,781

Dan Tsubouchi @Energy_Tidbits · Oct 11

Hmmm!

How many $ trillions does clean energy need as IEA highlights behind the pace needed for #NetZero.

World better hope peak #Oil demand happens soon as this reinforces OPEC warning of continued underinvestment in oil & gas ie. supply crunch ahead in late 2020s.

#OOTT

> **International Energy Agency** @IEA · Oct 11
>
> Global spending in clean energy is widening the gap over fossil fuels
>
> 5 years ago, for $1 invested in fossil fuels, the same went to clean energy.
>
> ...
>
> Show more
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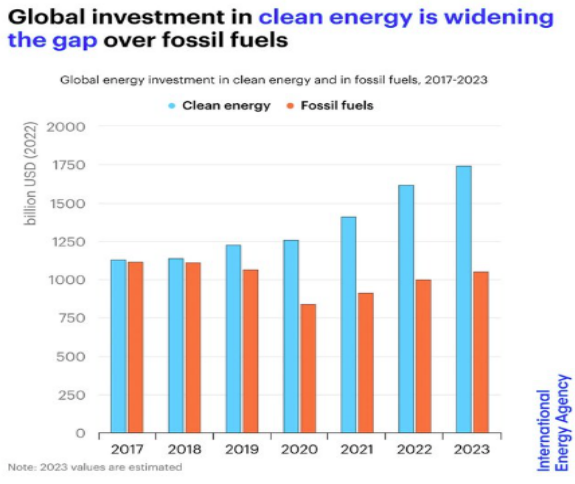
> 
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2 3 2,151

Dan Tsubouchi @Energy_Tidbits · Oct 11

#Montney

Contiguous land has big value!

Not just for Permian but also for #NatGas ie. Montney.

Contiguous undeveloped land blocks let top technical teams realize the full benefits of development approach.

#OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Oct 11
> Contiguous land has big value!
>
> Exxon call just started, CEO opens with "Pioneer, arguably the best Permian pure play co. with the largest undeveloped Tier 1 inventory in the Midland Basin. Their acreage is also highly contiguous which is ...
> Show more

1 3 17 5,884

Dan Tsubouchi @Energy_Tidbits · 3h

Big value accretion & ESG win for $XOM/$PXD

Contiguous land blocks!

"Improved resource recovery" drive 2/3 of synergies.

XOM 4 mile wells means less wells = improved recovery, less overall emissions, less water use, smaller footprint,

Relevant to other shale players!...
Show more

3 3 1,771

Dan Tsubouchi @Energy_Tidbits · 17h

Gulf Coast PADD 3 supply gap options.

This will be medium sour barrels so creates opportunity for Cdn crude.

Also another reason why US will want Saudi to bring back voluntary cuts especially in Q1/24.

And also why US could be looking to relax more Venezuela sanctions.

#OOTT

> **Dan Tsubouchi** @Energy_Tidbits · 18h
> Positive for Cdn #Oil in 2024 besides TMX 0.59 mmbd start.
>
> PADD 3 supply gap.
>
> Pemex prod 2.0 mmbd - refining 1.6 mmbd = max 0.4 mmbd for expo...
> Show more
>
> 
>

4 14 4,884

Dan Tsubouchi @Energy_Tidbits · 18h

Positive for Cdn #Oil in 2024 besides TMX 0.59 mmbd start.

PADD 3 supply gap.

Pemex prod 2.0 mmbd - refining 1.6 mmbd = max 0.4 mmbd for export.

Vs PADD 3 imports 0.62 mmbd from MEX YTD 07/31.

ie. 0.22 mmbd less to PADD 3 **IF ALL** Pemex oil goes to PADD 3.

...

Show more

5 15 8,849

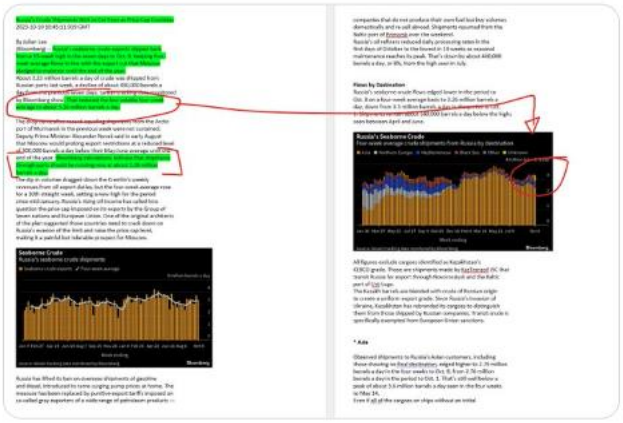
Dan Tsubouchi @Energy_Tidbits · Oct 10

Supportive of #Oil prices.

Russia oil shipments continue in line with its commitments to reduce exports by 300,000 b/d.

Latest 4-week average to Oct 8 was 3.26 mmb/d, in line with commitment to reduce to ~3.28 mmb/d.

Thx @JLeeEnergy.
#OOTT



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Dan Tsubouchi @Energy_Tidbits · Oct 9

Israel warns heavy damage ahead in Gaza.

"*I hope in the days ahead that that support continues when Israel has to do what it has to do to in order to exact such a heavy price for this terror organization*" Israel Minister to @FerroTV

#OOTT

> **Axios** @axios · Oct 9
>
> SCOOP: Israeli PM Benjamin Netanyahu told President Biden that Israel does not have any choice but to unleash a ground operation in Gaza. "We have to go in," the Israeli leader said, according to three Israeli and U.S. sources briefed on the call. trib.al/6G8Y679

3 14 5,193

Dan Tsubouchi @Energy_Tidbits · Oct 9

Scheduled +240/wk increase to Oct 31 in international flights is driver for jump in China scheduled domestic flights over next 4 wks to 116,631, highest since Covid.

@BloombergNEF Claudio Lubis reminded more international flights = need for more domestic feeder flights

#OOTT

3 11 3,603

Dan Tsubouchi @Energy_Tidbits · Oct 9

Here's why Iran geopolitical risk has to be top of mind.

"*We're going to do whatever we have to do to send a lesson that they're going to understand for many, many decades. Not just Hamas, not just the other terror organizations in Gaza, but all the terror organizations and all...*
Show more

3 18 47 30K

Dan Tsubouchi @Energy_Tidbits · Oct 9

Brent well off last night's high of $88.98 at 9:08pm ET, now trading +$2.25 to $86.83 at 5:35am ET.

#OOTT

1 7 1,138

Dan Tsubouchi @Energy_Tidbits · Oct 8

Brent backed off earlier high $88.98 at 9:08pm ET, now trading +$3.23 to $87.81 at 10:14pm ET

#OOTT

1 5 1,729

Dan Tsubouchi @Energy_Tidbits · Oct 8

Support for #Oil.

Saudi might not decide until Q1 to add #Oil ie, oil may not hit physical markets until Q2.

"*i would not forfeit the precautionary approach, even it goes beyond a month or 2 or 3 or 4 month, or 5 months*" Prince Abdulaziz.

Thx @RMIordache @dan_murphy.

#OOTT

> **Dan Tsubouchi** @Energy_Tidbits · Oct 6
>
> Beyond headlines, see paragraph 3 "Still, Saudi negotiators emphasized that market conditions would guide any action on production"
>
> Hard to see Saudi adding #Oil in early Q1, the seasonally low deman...
> Show more

11 34 10.7K