Energy Tidbits

No Peak Oil Demand, IEA Increases 2024 Oil Demand Forecast to 103.2 mmb/d After Reducing 2023 Demand by 0.2 mmb/d

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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**	**$79**	**$84**
Retail gasoline price (dollars per gallon)	**$3.97**	**$3.40**	**$3.34**
U.S. crude oil production (million barrels per day)	**11.89**	**12.56**	**12.85**
Natural gas price at Henry Hub (dollars per million British thermal units)	**$6.42**	**$2.62**	**$3.29**
U.S. liquefied natural gas gross exports (billion cubic feet per day)	**10.6**	**12.0**	**13.3**
Shares of U.S. electricity generation			
Natural gas	39%	41%	40%
Coal	20%	16%	15%
Renewables	22%	23%	25%
Nuclear	19%	19%	20%
U.S. GDP (percentage change)	**2.1%**	**1.5%**	**1.3%**
U.S. CO_2 emissions (billion metric tons)	**4.96**	**4.79**	**4.77**

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

- **U.S. economy.** Our forecast assumes U.S. GDP growth of 1.5% in 2023 and 1.3% in 2024, which is revised up from last month's forecast of 1.3% in 2023 and 1.0% in 2024. The upward revision is partially driven by an updated estimate of real GDP growth in the first quarter of 2023 (1Q23) resulting from more consumer spending and aggregate investment than assumed in last month's STEO. We use the S&P Global macroeconomic model, and we input our energy price forecasts to get the forecasts for the U.S. economy used in STEO.

- **Crude oil prices.** We forecast that the Brent crude oil spot price will average $78 per barrel (b) in July. Crude oil prices gradually increase throughout our forecast, reaching about $80/b in 4Q23 and averaging about $84/b in 2024 because we expect that global oil inventories will decline over the next five quarters.

- **U.S. renewable diesel production.** As a result of the U.S. Environmental Protection Agency's (EPA) revised Renewable Fuel Standard (RFS) rule establishing biofuel volume requirements that was issued on June 21, we have reduced our forecast for renewable diesel production growth. However, we still expect renewable diesel production will grow in the United States to reach 219,000 b/d in 2024.

- **Natural gas prices.** We expect the Henry Hub spot price will rise in the coming months as declining natural gas production narrows the existing surplus of natural gas inventories compared with the five-year average. Henry Hub prices in our forecast average more than $2.80 per million British

thermal units (MMBtu) in the second half of 2023 (2H23), up from about $2.40/MMBtu in the first half of the year.

- **Electricity generation.** Solar has been the leading source of new generating capacity in the United States so far this year, and the new capacity contributes to our forecast of 23% more U.S. solar generation this summer (June, July, and August) than last summer. The increase in solar capacity, along with lower natural gas prices, reduces our forecast of coal-fired electricity generation this year. We expect that U.S. coal-fired generation during 2H23 will be 75 billion kilowatthours (18%) less than 2H22.

- **Supplements.** We periodically publish report and article supplements to the STEO to provide an in-depth analysis of special topics related to our forecasts. This month's *Between the Lines* article discusses our U.S. LNG exports forecast.

Notable forecast changes

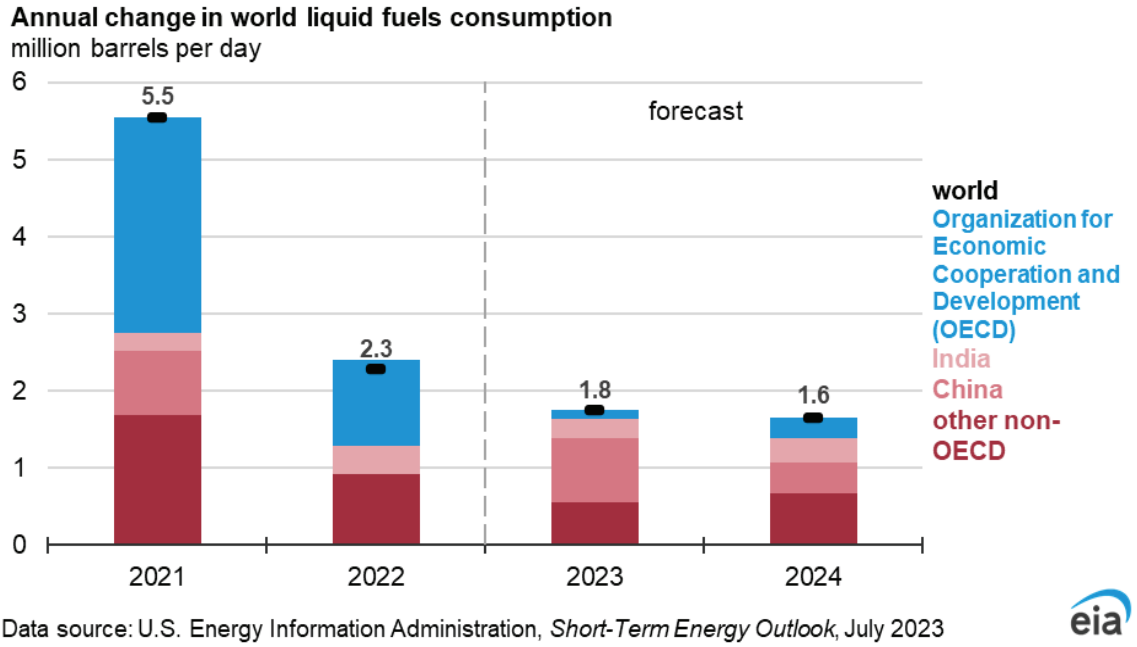
current forecast: July 11, 2023; previous forecast: June 6, 2023	2023	2024
U.S. natural gas consumption in the electric power sector (current forecast) (billion cubic feet per day)	**34.5**	**33.5**
Previous forecast	34.3	32.5
Percentage change	0.7%	3.2%
U.S. LNG exports (current forecast) (billion cubic feet per day)	**12.0**	**13.3**
Previous forecast	12.1	12.7
Percentage change	-0.2%	4.6%
U.S. renewable diesel production (current forecast) (million barrels per day)	**0.161**	**0.219**
Previous forecast	**0.157**	**0.225**
Percentage change	2.2%	-2.8%
U.S. electric power sector generation from coal (current forecast) (billion kilowatthours)	**629.1**	**610.5**
Previous forecast	**641.5**	650.5
Percentage change	-1.9%	-6.1%
U.S. coal production (current forecast) (million short tons)	**572.2**	**460.3**
Previous forecast	559.5	478.4
Percentage change	2.3%	-3.8%

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

Global Oil Markets

Global oil demand and prices

The Brent crude oil spot price in our forecast gradually increases in the coming months, reflecting our expectation that global oil inventories will decline. The Brent price averaged $75 per barrel (b) in June, unchanged from May, as ongoing concerns regarding weakening global economic conditions continued to limit expectations for global oil demand growth, which countered upward price pressure from tighter near-term oil supplies. The reduction in expected near-term oil supplies was the result of the OPEC+ extended crude oil production cuts announced on June 4 and an extension of voluntary cuts through August announced by Saudi Arabia on July 3. We expect the production cuts and rising demand to increase prices going forward. Brent crude oil spot prices in our forecast rise to $81/b by the end of this year and average $84/b next year.



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

Global liquid fuels consumption in our forecast increases by 1.8 million barrels per day (b/d) in 2023 and by 1.6 million b/d in 2024. Most of the expected liquid fuels demand growth is in non-OECD Asia, led by China and India. We expect China's liquid fuels consumption will rise by 0.8 million b/d in 2023 and by 0.4 million b/d in 2024. India's liquid fuels consumption in our forecast increases by an average of 0.3 million b/d in both 2023 and 2024.

Global oil inventories will transition from inventory builds, on average, during the first half of 2023 (1H23) to consistent inventory draws until the fourth quarter of 2024 (4Q24). This transition puts upward pressure on global oil prices over the forecast period. Global oil inventories increased by an average of 0.6 million b/d in 1H23, and we forecast they will decrease by an average of 0.7 million b/d in 2H23. Inventories continue to fall by an average of 0.4 million b/d in the first three quarters of 2024 before increasing by 0.1 million b/d in 4Q24. We forecast the Brent crude oil spot price will average $79/b in 2023 and $84/b in 2024, down from an average of $101/b in 2022.

Global oil supply

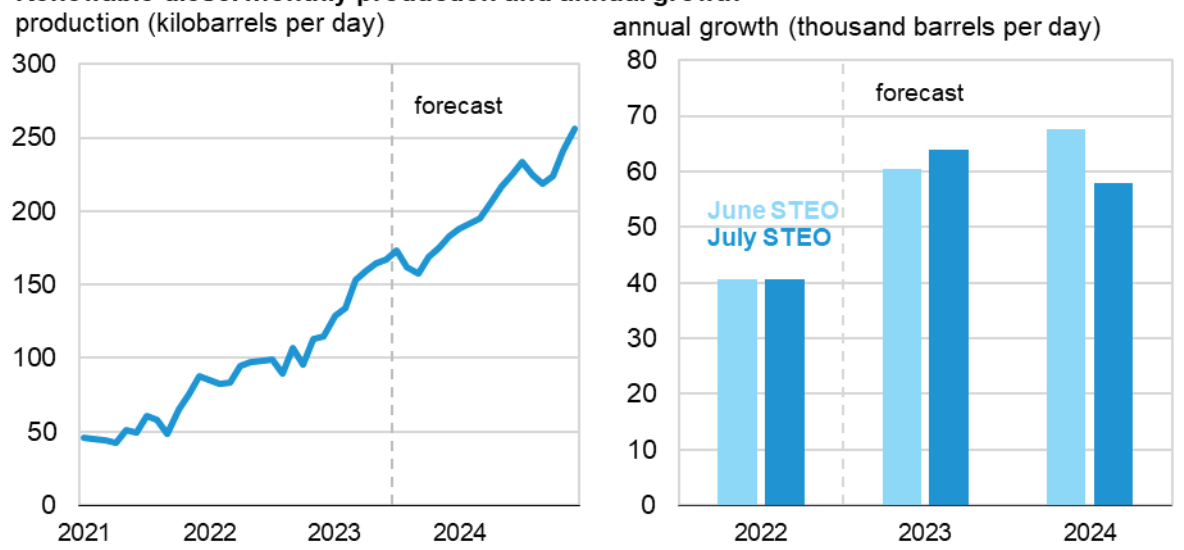
We forecast global liquid fuels production will increase by 1.2 million b/d in 2023, primarily because of growth from non-OPEC producers such as the United States, Norway, Canada, Brazil, and Guyana. This growth offsets reduced production in Russia and OPEC. We expect Russia's production will decline between 0.2 million b/d and 0.3 million b/d on average this year. We forecast that total OPEC liquid fuels production will fall by 0.6 million b/d in 2023, primarily because of the extended production cuts announced on June 4 by OPEC+ and voluntary cuts by Saudi Arabia. On July 3, Saudi Arabia announced it was extending voluntary cuts through August. Global liquid fuels production increases by an additional 1.5 million b/d in 2024 led by growth in OPEC production. Overall, we forecast total OPEC liquid fuels production to increase by 0.5 million b/d in 2024.

Petroleum Products

U.S. renewable diesel production

On June 21, 2023, the U.S. Environmental Protection Agency (EPA) announced a final Renewable Fuel Standard (RFS) rule establishing biofuel volume requirements for 2023–2025. In response to the final rule, we reduced our forecast for renewable diesel production growth in 2024 from last month's STEO. We now forecast growth in renewable diesel production to be less in 2024 than in 2023. We forecast renewable diesel production of 161,000 barrels per day (b/d) in 2023, a 64,000 b/d (66%) increase from 2022, and 219,000 b/d in 2024, a 58,000 b/d (36%) increase from 2023. Our forecast for 2023 increased from last month's STEO because of recent production increases.

Renewable diesel monthly production and annual growth



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

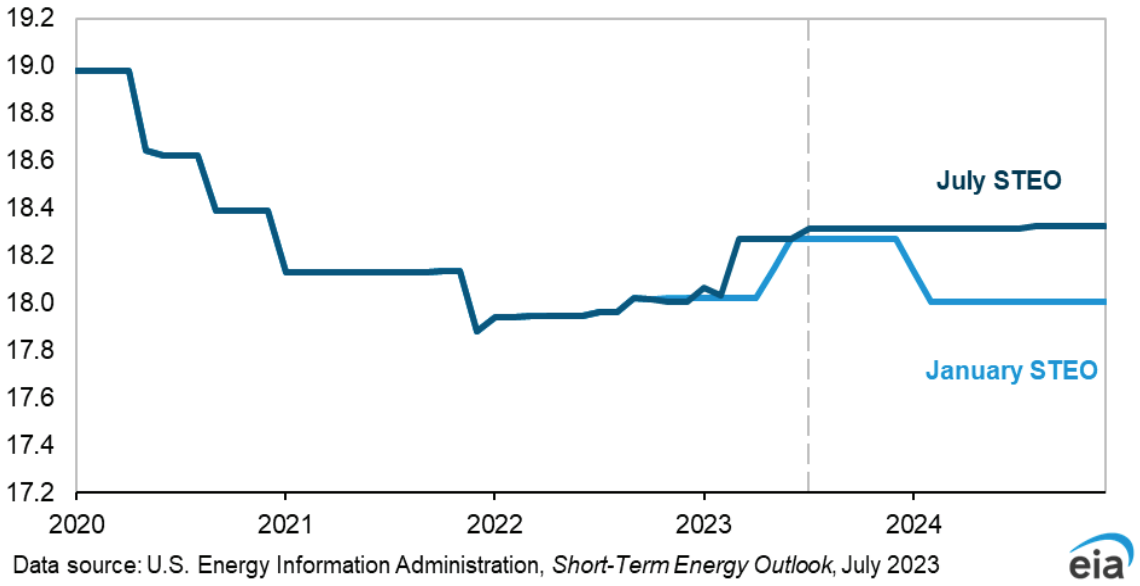
Prior to this month's STEO, we assumed that some of the announced capacity additions for renewable diesel would not be completed because of the possibility of increased feedstock costs or decreased credit values. In response to the final RFS rule, we now assume lower plant utilizations and more

proposed plants to be canceled than we did previously. Nonetheless, we still expect production growth based on our assumption that some of the announced projects will come online in the next 18 months.

U.S. refinery capacity

Several announcements from refiners have led us to forecast higher U.S. refinery capacity in our current STEO compared with our forecasts at the start of this year. On May 31, LyondellBasell announced it would delay closing its 263,776-b/d Houston refinery until early 2025, which it had previously scheduled for the end of 2023. The delay means that this capacity will remain online through 2024, which removes the only major reduction in refinery capacity in our forecast. Combined with the earlier on-stream date of ExxonMobil's Beaumont expansion, as well as the estimated impact of smaller capacity increases at Marathon Galveston Bay this year and Chevron Pasadena next year, we now forecast U.S. refinery capacity will average 18.3 million b/d in 2024, up from 18.0 million b/d in our January STEO. Our STEO forecast does not include temporary reductions in capacity because of maintenance or unplanned outages.

STEO Operable refinery capacity forecast comparison



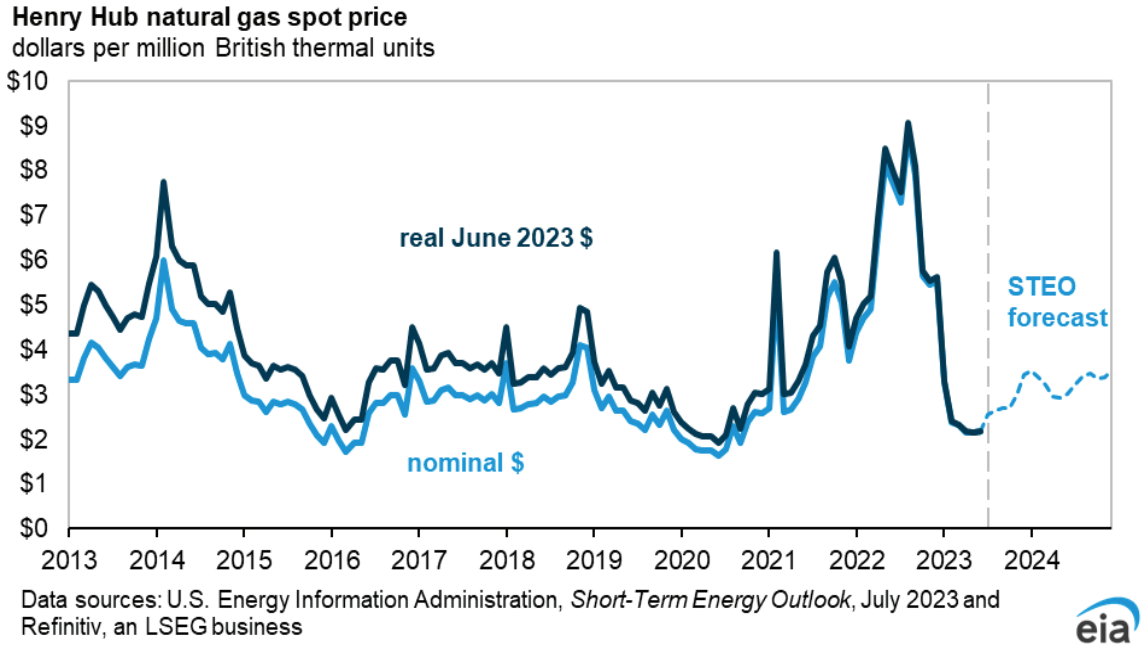
Natural Gas

Natural gas prices

We expect the Henry Hub spot price to increase in July to a monthly average of almost $2.60 per million British thermal units (MMBtu), a 19% increase compared with June. We forecast the Henry Hub spot price will continue to rise through the year. U.S. dry natural gas production has been relatively flat in recent months, a production trend we expect to generally continue for the rest of this year. With flat production and year-over-year growth in natural gas consumption, we expect U.S. natural gas inventories will reduce the surplus to the five-year average, which will put upward pressure on prices. Storage inventories at the end of June were 2,900 billion cubic feet (Bcf), 14% above the five-year

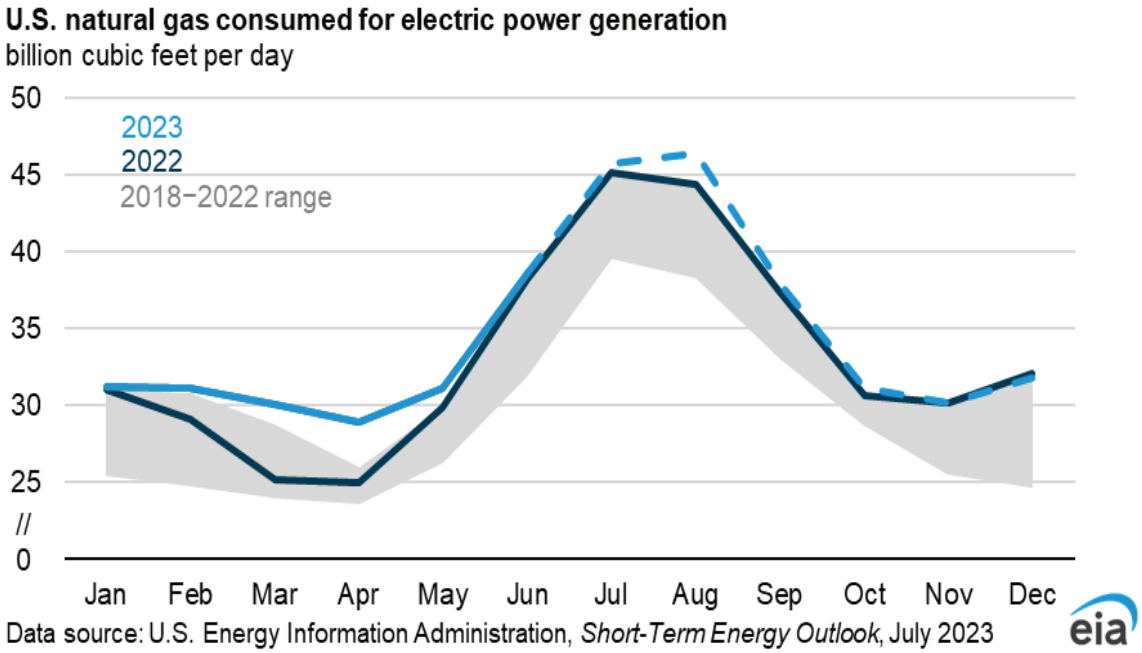
(2018–2022) average. We expect storage inventories to end the injection season on October 31 at 7% above the five-year average.

The U.S. benchmark Henry Hub natural gas spot price has averaged below $2.50 per million British thermal units (MMBtu) every month since February of this year. Last year, nominal prices averaged $6.42/MMBtu for the year ($6.65/MMBtu in real terms). Lower natural gas prices in the first half of this year are a result of increases in dry natural gas production, lower-than-average consumption due to mild winter weather, and the resulting higher-than-average storage inventories. In June, the Henry Hub spot price averaged $2.18/MMBtu, the third month in a row it averaged below $2.20/MMBtu. Real monthly Henry Hub spot prices have not averaged below $2.20/MMBtu on a sustained basis since March through July of 2020.



Natural gas consumption for electric power

We expect natural gas consumed for electric power generation in the United States to average 46 billion cubic feet per day (Bcf/d) in July and August, when air-conditioning demand across the country reaches seasonal highs. Natural gas-fired electric power generation has increased the past two summers because higher-than-normal temperatures in the summer months have increased overall electricity generation to meet air-conditioning demand. Total monthly U.S. electricity generation topped 400 billion kilowatthours last July and we forecast that it will do so in both July and August in 2023. We expect natural gas-fired generation to account for 46% of all U.S. power generation in July and 47% in August.



In addition, we forecast 4% more natural gas-fired power generation in July and August compared with last year due to about 6,000 megawatts of new combined-cycle gas turbine (CCGT) capacity that entered service. Low prices for natural gas, combined with more high-efficiency CCGT capacity now in service, makes natural gas a more cost-competitive source of power than coal. We forecast natural gas consumed for electric power to remain high compared with its five-year average for the rest of 2023, averaging 31 Bcf/d in 4Q23.

Electricity, coal, and renewables

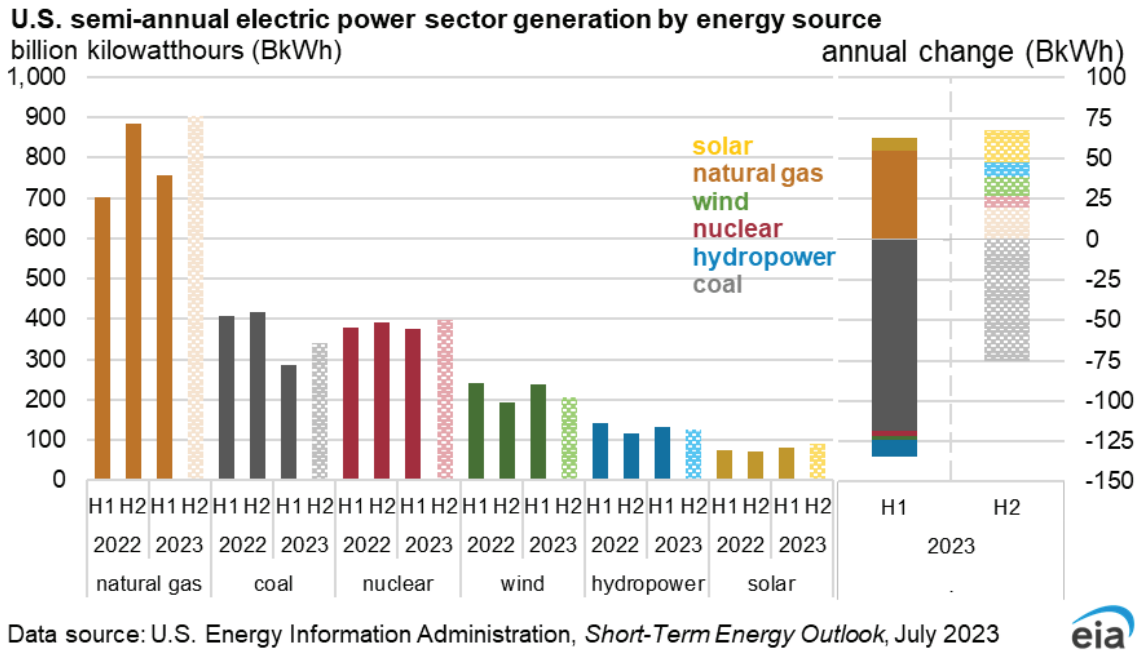
Electricity demand

We expect electricity demand during the second half of 2023 (2H23) to be similar to last year, which leads to a 2% decline in U.S. electricity consumption for all of 2023 compared with 2022. We estimate that U.S. electricity consumption during 1H23 was 3% lower than during 1H22 because of milder winter weather during 1Q23. We expect electricity consumption for 2024 to increase by 2%, bringing it in line with 2022.

Electricity generation

Among fuels used for power generation, coal has seen the largest decline in electricity generation during 2023. This decline is due to coal plant retirements totaling more than 10,000 megawatts of capacity this year, combined with reduced utilization of the remaining fleet. We expect about 75 billion kilowatthours, or 18% less U.S. coal-fired generation during 2H23 than in 2H22.

Most of the decline in coal generation during 2023 will be replaced by natural gas-fired generation, solar, and wind. In particular, the electric power sector has been rapidly expanding its solar generating capacity, adding 16 gigawatts of new capacity (a 25% increase) between June 2022 and June 2023. The industry has also added 8 gigawatts of wind capacity (6% increase) over the past year.

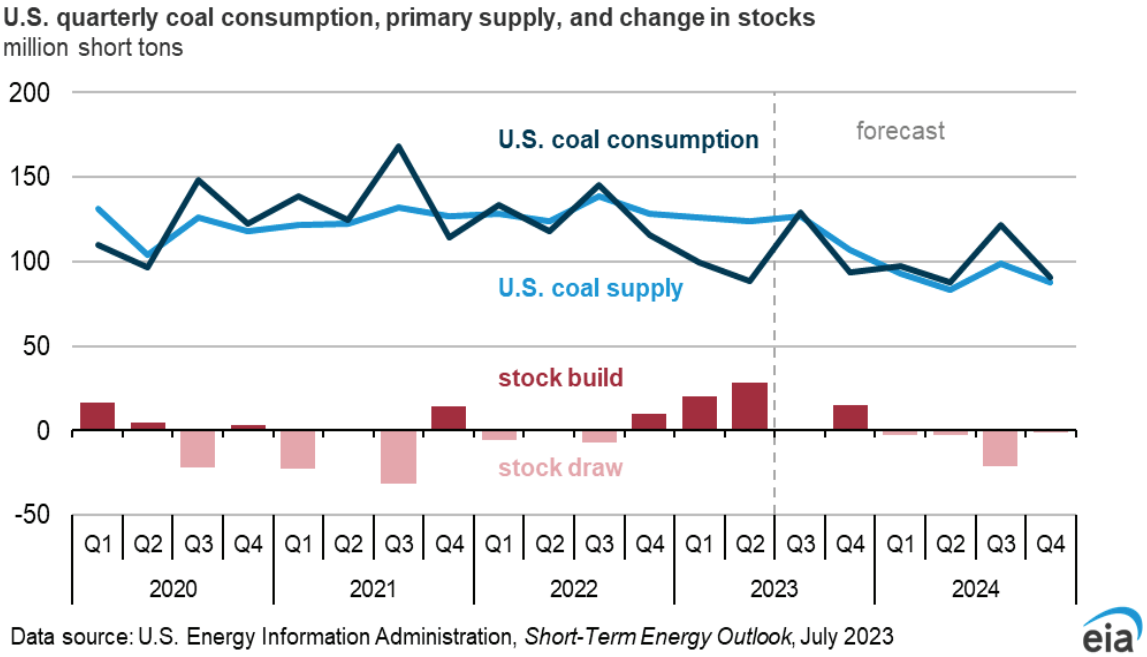


Although several nuclear reactors have retired in recent years, a new reactor at the Vogtle nuclear plant in Georgia is scheduled to come online this summer. With the addition of this new unit, along with fewer reactor unit outages among the existing fleet, we forecast that U.S. nuclear generation in 2H23 will be 8 billion kilowatthours (2%) higher than in 2H22.

Coal markets

We estimate coal inventories held by the electric power sector ended 1H23 at 138 million short tons (MMst), up 53% from the end of 2022. The electric power sector held roughly 80% of total U.S. coal stocks at the end of last year. Although the U.S. electric power sector consumed 27% less coal in 1H23 than in 1H22, U.S. coal production remained the same over that period and coal inventories accumulated. We expect inventories will grow beyond 150 MMst by the end of this year.

We forecast that declines in U.S. coal consumption will slow in 2024. We expect the power sector will consume about 4% less coal in 2024 than in 2023. However, coal production in our forecast has a delayed response to the high inventories and decreased consumption as coal producers fulfill supply contracts already in place. Total U.S. coal production falls to near 570 MMst in 2023, a 4% drop compared with 2022. In 2024, we forecast coal production to fall more steeply, by 20%, to 460 MMst as the supply contracts keeping coal production steady expire.



Economy, Weather, and CO_2

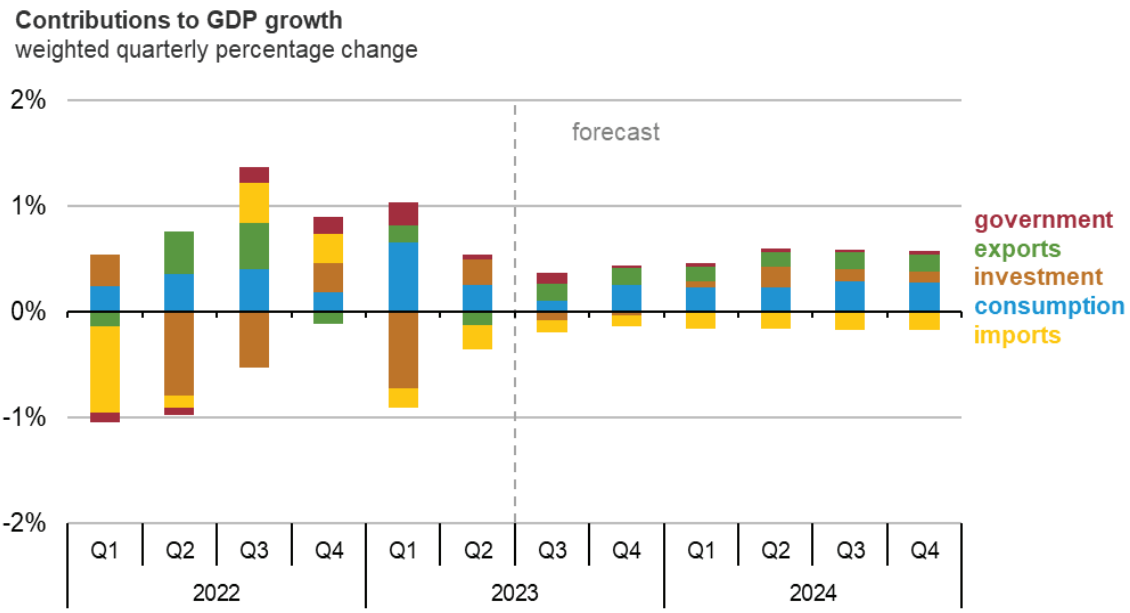
U.S. macroeconomics

We base our U.S. macroeconomic forecasts on S&P Global's macroeconomic model. We incorporate STEO energy price forecasts into the model to obtain the final macroeconomic assumptions we use in the STEO.

Our forecast assumes real GDP growth will average 1.5% in 2023 and 1.3% in 2024. We revised both forecasts up from the June STEO. The revision was partially driven by an updated estimate of real GDP growth in the first quarter of 2023 (1Q23), which included an increase in aggregate investment compared with the initial estimate earlier this year. Although our 2Q23 forecast assumes increased aggregate investment and was revised higher from the June STEO, we forecast small declines in investment the second half of 2023 and do not anticipate a return to growth until 1Q24.

Higher borrowing costs are likely contributing to the overall weakness in aggregate investment through new residential fixed investment. Except for 2Q23, when housing starts increased due to a large increase in multi-family housing starts, we expect aggregate investment will decline in late 2023 as the effects of higher interest rates persist. Although housing starts grew 4.9% in 2Q23, our forecast assumes they will decline by 7.0% in 3Q23 and by 1.0% in 4Q23.

Consumer spending grew in 1Q23 with both goods and services spending contributing to the gains. Our July forecast now assumes personal consumption expenditures will grow by 2.0% in 2023 and 1.3% in 2024. Although not reflected in this month's STEO, on June 29, the Bureau of Economic Analysis released its third estimate of 1Q23 GDP growth. The recent estimate included an additional upward revision of 0.7%, which was led by increases in personal consumption expenditures and exports.

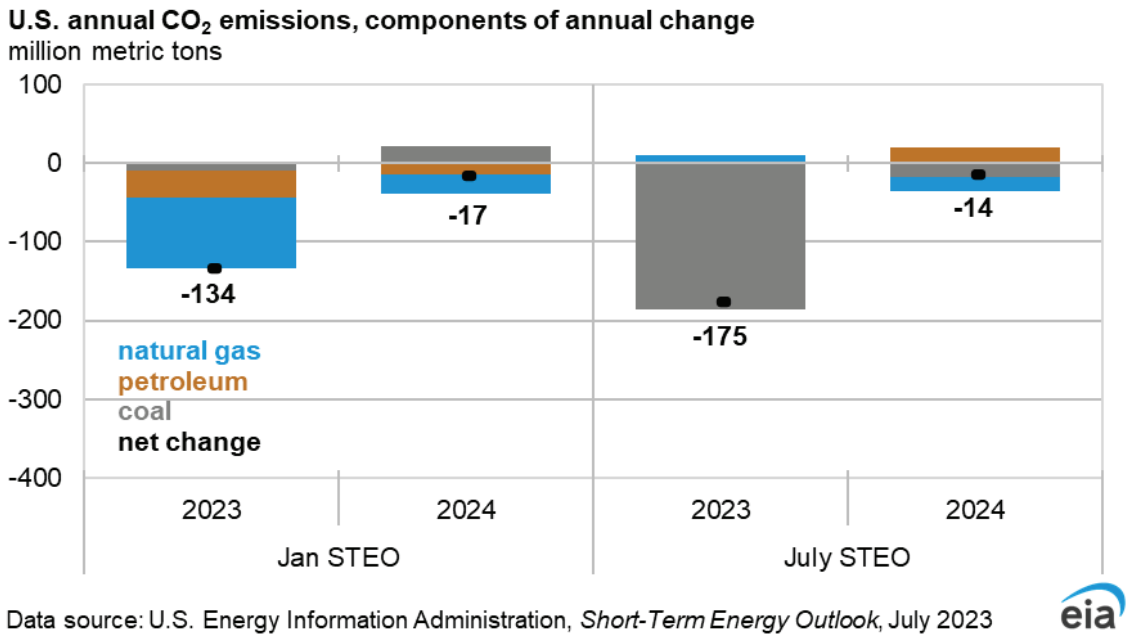


Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, July 2023

Emissions

We expect U.S. energy-related carbon dioxide (CO_2) emissions to decrease by 4% in 2023. The largest reduction in CO_2 emissions is from less use of coal, declining by 20% relative to 2022. Emissions from petroleum and natural gas remain nearly unchanged. Total CO_2 forecast emissions in 2024 remain unchanged from 2023.

This emissions forecast is notably different than what we expected in the January STEO forecast. The most significant difference is in coal-related emissions. The January forecast predicted an 11% decline in coal emissions in 2023 relative to 2022; however, ongoing coal-fired power plant closures, coal supply shortages, mild winter weather, and low natural gas prices significantly reduced our estimate. Natural gas emissions, which we predicted to decrease in 2023 in the January STEO, instead increase slightly in the current forecast. This increase is due, in part, to increased natural gas-fired electricity generation, although natural gas-related emissions were lowered somewhat by reduced residential natural gas use because of mild winter weather. Petroleum emissions increase slightly in the latest forecast as a result of a predicted increase in motor gasoline and jet fuel consumption associated with increased travel demand. Both the January and July STEO forecasts estimate minimal net changes to CO_2 emissions in 2024.



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

Weather

Our latest weather data indicate the United States had an average of about 200 cooling degree days (CDDs) in June, the fewest in June since 2003, and 36 fewer CDDs than we estimated in our June STEO forecast. We expect CDDs to increase to about 360 CDDs in July and in August. We expect the milder start to the summer cooling season (May–September) to result in about 6% fewer CDDs overall in 2023 compared with 2022.

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

U.S. Energy Information Administration | Short-Term Energy Outlook - July 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	**31.62**	**31.88**	**32.54**	**32.97**	**33.43**	**33.71**	*33.86*	*34.38*	*34.46*	*34.23*	*34.63*	*35.30*	**32.26**	*33.85*	*34.66*
U.S. (50 States)	**19.44**	**20.12**	**20.60**	**20.67**	**21.03**	**21.36**	*21.28*	*21.38*	*21.35*	*21.52*	*21.83*	*22.09*	**20.21**	*21.26*	*21.70*
Canada	**5.66**	**5.51**	**5.72**	**5.91**	**5.79**	**5.63**	*5.90*	*6.13*	*6.21*	*5.92*	*6.13*	*6.34*	**5.70**	*5.86*	*6.15*
Mexico	**1.91**	**1.89**	**1.90**	**1.90**	**2.07**	**2.14**	*2.13*	*2.10*	*2.11*	*2.09*	*2.06*	*2.01*	**1.90**	*2.11*	*2.07*
Other OECD	**4.61**	**4.35**	**4.32**	**4.49**	**4.54**	**4.57**	*4.56*	*4.77*	*4.79*	*4.70*	*4.61*	*4.86*	**4.44**	*4.61*	*4.74*
Non-OECD	**67.20**	**66.86**	**68.26**	**68.05**	**67.61**	**67.42**	*66.91*	*67.07*	*67.44*	*67.85*	*68.32*	*68.04*	**67.60**	*67.25*	*67.91*
OPEC	**33.75**	**33.76**	**34.71**	**34.43**	**33.95**	**33.72**	*32.90*	*33.21*	*33.95*	*33.97*	*34.06*	*33.80*	**34.17**	*33.44*	*33.95*
Crude Oil Portion	**28.19**	**28.33**	**29.23**	**28.92**	**28.46**	**28.38**	*27.50*	*27.77*	*28.42*	*28.57*	*28.62*	*28.32*	**28.67**	*28.02*	*28.49*
Other Liquids (b)	**5.56**	**5.43**	**5.48**	**5.52**	**5.49**	**5.34**	*5.40*	*5.44*	*5.53*	*5.40*	*5.44*	*5.48*	**5.50**	*5.42*	*5.46*
Eurasia	**14.39**	**13.39**	**13.56**	**13.90**	**14.02**	**13.57**	*13.52*	*13.61*	*13.60*	*13.58*	*13.56*	*13.64*	**13.81**	*13.68*	*13.60*
China	**5.18**	**5.18**	**5.05**	**5.09**	**5.32**	**5.31**	*5.28*	*5.32*	*5.27*	*5.30*	*5.29*	*5.33*	**5.12**	*5.31*	*5.30*
Other Non-OECD	**13.89**	**14.53**	**14.94**	**14.63**	**14.31**	**14.82**	*15.21*	*14.93*	*14.61*	*15.00*	*15.41*	*15.27*	**14.50**	*14.82*	*15.07*
Total World Production	**98.83**	**98.74**	**100.80**	**101.02**	**101.04**	**101.13**	*100.77*	*101.45*	*101.90*	*102.08*	*102.95*	*103.34*	**99.85**	*101.10*	*102.57*
Non-OPEC Production	**65.08**	**64.98**	**66.09**	**66.58**	**67.09**	**67.41**	*67.87*	*68.25*	*67.95*	*68.10*	*68.89*	*69.54*	**65.69**	*67.66*	*68.62*
Consumption (million barrels per day) (c)															
OECD	**45.76**	**45.38**	**46.58**	**45.95**	**45.49**	**45.62**	*46.46*	*46.57*	*46.16*	*45.71*	*46.70*	*46.64*	**45.92**	*46.04*	*46.30*
U.S. (50 States)	**20.22**	**20.27**	**20.47**	**20.16**	**20.00**	**20.48**	*20.68*	*20.59*	*20.52*	*20.72*	*21.08*	*20.82*	**20.28**	*20.44*	*20.79*
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**	**2.22**	**2.25**	*2.35*	*2.33*	*2.31*	*2.26*	*2.35*	*2.33*	**2.28**	*2.29*	*2.31*
Europe	**13.19**	**13.43**	**14.04**	**13.35**	**13.06**	**13.47**	*13.88*	*13.64*	*13.25*	*13.40*	*13.82*	*13.58*	**13.50**	*13.52*	*13.51*
Japan	**3.70**	**3.03**	**3.19**	**3.56**	**3.72**	**3.01**	*3.11*	*3.44*	*3.55*	*2.94*	*3.04*	*3.37*	**3.37**	*3.32*	*3.22*
Other OECD	**6.30**	**6.33**	**6.37**	**6.45**	**6.39**	**6.29**	*6.32*	*6.45*	*6.42*	*6.27*	*6.30*	*6.43*	**6.36**	*6.36*	*6.36*
Non-OECD	**52.79**	**53.46**	**53.88**	**53.80**	**54.57**	**55.34**	*55.29*	*55.26*	*56.16*	*56.66*	*56.59*	*56.57*	**53.48**	*55.12*	*56.50*
Eurasia	**4.28**	**4.43**	**4.73**	**4.65**	**4.30**	**4.45**	*4.76*	*4.68*	*4.44*	*4.59*	*4.91*	*4.82*	**4.53**	*4.55*	*4.69*
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**	**15.94**	**16.13**	*15.81*	*16.02*	*16.33*	*16.52*	*16.19*	*16.41*	**15.15**	*15.97*	*16.36*
Other Asia	**13.75**	**13.76**	**13.42**	**13.84**	**14.26**	**14.32**	*13.74*	*14.04*	*14.87*	*14.84*	*14.24*	*14.55*	**13.69**	*14.09*	*14.62*
Other Non-OECD	**18.90**	**19.41**	**19.87**	**19.26**	**19.34**	**19.68**	*20.21*	*19.75*	*19.78*	*19.94*	*20.48*	*20.01*	**19.36**	*19.75*	*20.06*
Total World Consumption	**98.54**	**98.84**	**100.46**	**99.75**	**100.06**	**100.96**	*101.75*	*101.83*	*102.32*	*102.38*	*103.29*	*103.22*	**99.40**	*101.16*	*102.80*
Total Crude Oil and Other Liquids Inventory Net Withdrawals (million barrels per day)															
U.S. (50 States)	**0.81**	**0.51**	**0.45**	**0.41**	**-0.09**	**-0.05**	*-0.30*	*0.39*	*0.00*	*-0.32*	*0.02*	*0.39*	**0.54**	*-0.01*	*0.02*
Other OECD	**-0.09**	**-0.29**	**-0.48**	**-0.26**	**-0.34**	**-0.04**	*0.40*	*0.00*	*0.13*	*0.19*	*0.10*	*-0.16*	**-0.28**	*0.01*	*0.06*
Other Stock Draws and Balance	**-1.00**	**-0.13**	**-0.31**	**-1.42**	**-0.54**	**-0.09**	*0.87*	*-0.01*	*0.28*	*0.43*	*0.22*	*-0.35*	**-0.71**	*0.06*	*0.14*
Total Stock Draw	**-0.29**	**0.09**	**-0.34**	**-1.27**	**-0.97**	**-0.17**	*0.98*	*0.38*	*0.42*	*0.30*	*0.34*	*-0.13*	**-0.45**	*0.06*	*0.23*
End-of-period Commercial Crude Oil and Other Liquids Inventories (million barrels)															
U.S. Commercial Inventory	**1,154**	**1,180**	**1,215**	**1,222**	**1,231**	**1,259**	*1,280*	*1,245*	*1,244*	*1,273*	*1,271*	*1,236*	**1,222**	*1,245*	*1,236*
OECD Commercial Inventory	**2,604**	**2,656**	**2,735**	**2,766**	**2,806**	**2,838**	*2,822*	*2,786*	*2,774*	*2,786*	*2,774*	*2,754*	**2,766**	*2,786*	*2,754*

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

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

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

- = no data available

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

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

Notes: EIA completed modeling and analysis for this report on July 6, 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.

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 - July 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)	**11.47**	**11.70**	**12.06**	**12.31**	**12.61**	**12.55**	*12.48*	*12.63*	*12.67*	*12.71*	*12.88*	*13.13*	**11.89**	*12.56*	*12.85*
Alaska	**0.45**	**0.44**	**0.42**	**0.44**	**0.44**	**0.42**	*0.41*	*0.43*	*0.43*	*0.37*	*0.39*	*0.41*	**0.44**	*0.43*	*0.40*
Federal Gulf of Mexico (b)	**1.67**	**1.70**	**1.80**	**1.80**	**1.87**	**1.74**	*1.86*	*1.88*	*1.92*	*1.91*	*1.83*	*1.87*	**1.74**	*1.84*	*1.88*
Lower 48 States (excl GOM)	**9.35**	**9.56**	**9.84**	**10.07**	**10.30**	**10.39**	*10.21*	*10.31*	*10.32*	*10.43*	*10.66*	*10.85*	**9.71**	*10.30*	*10.57*
Crude Oil Net Imports (c)	**3.00**	**2.81**	**2.75**	**2.14**	**2.27**	**2.35**	*3.02*	*2.71*	*2.52*	*2.85*	*2.84*	*2.09*	**2.67**	*2.59*	*2.58*
SPR Net Withdrawals	**0.31**	**0.80**	**0.84**	**0.48**	**0.01**	**0.27**	*-0.07*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.61**	*0.05*	*0.00*
Commercial Inventory Net Withdrawals	**0.08**	**-0.03**	**-0.12**	**-0.01**	**-0.40**	**0.15**	*0.24*	*-0.04*	*-0.30*	*0.14*	*0.20*	*-0.08*	**-0.02**	*-0.01*	*-0.01*
Crude Oil Adjustment (d)	**0.71**	**0.81**	**0.74**	**0.87**	**0.70**	**0.79**	*0.48*	*0.45*	*0.53*	*0.55*	*0.49*	*0.45*	**0.78**	*0.60*	*0.50*
Total Crude Oil Input to Refineries	**15.56**	**16.09**	**16.26**	**15.80**	**15.19**	**16.10**	*16.15*	*15.75*	*15.42*	*16.25*	*16.41*	*15.59*	**15.93**	*15.80*	*15.92*
Other Supply															
Refinery Processing Gain	**0.95**	**1.07**	**1.05**	**1.01**	**0.97**	**1.03**	*1.01*	*1.02*	*0.98*	*1.01*	*1.02*	*1.00*	**1.02**	*1.01*	*1.00*
Natural Gas Plant Liquids Production	**5.61**	**5.92**	**6.09**	**5.90**	**6.01**	**6.30**	*6.30*	*6.25*	*6.20*	*6.25*	*6.37*	*6.38*	**5.88**	*6.22*	*6.30*
Renewables and Oxygenate Production (e)	**1.20**	**1.20**	**1.18**	**1.23**	**1.24**	**1.27**	*1.28*	*1.26*	*1.30*	*1.33*	*1.35*	*1.36*	**1.20**	*1.27*	*1.33*
Fuel Ethanol Production	**1.02**	**1.01**	**0.97**	**1.01**	**1.00**	**1.01**	*1.01*	*0.98*	*1.01*	*1.01*	*1.01*	*1.02*	**1.00**	*1.00*	*1.01*
Petroleum Products Adjustment (f)	**0.21**	**0.23**	**0.22**	**0.22**	**0.20**	**0.21**	*0.22*	*0.22*	*0.21*	*0.22*	*0.22*	*0.22*	**0.22**	*0.21*	*0.22*
Product Net Imports (c)	**-3.74**	**-3.99**	**-4.07**	**-3.93**	**-3.91**	**-3.98**	*-3.80*	*-4.34*	*-3.88*	*-3.88*	*-4.12*	*-4.20*	**-3.93**	*-4.01*	*-4.02*
Hydrocarbon Gas Liquids	**-2.14**	**-2.31**	**-2.16**	**-2.26**	**-2.47**	**-2.60**	*-2.60*	*-2.54*	*-2.50*	*-2.57*	*-2.55*	*-2.58*	**-2.22**	*-2.55*	*-2.55*
Unfinished Oils	**0.09**	**0.25**	**0.28**	**0.30**	**0.28**	**0.29**	*0.43*	*0.25*	*0.20*	*0.27*	*0.31*	*0.21*	**0.23**	*0.31*	*0.25*
Other HC/Oxygenates	**-0.09**	**-0.10**	**-0.07**	**-0.02**	**-0.05**	**-0.05**	*-0.03*	*-0.04*	*-0.05*	*-0.04*	*-0.03*	*-0.04*	**-0.07**	*-0.04*	*-0.04*
Motor Gasoline Blend Comp.	**0.40**	**0.60**	**0.48**	**0.40**	**0.45**	**0.65**	*0.64*	*0.34*	*0.49*	*0.65*	*0.48*	*0.36*	**0.47**	*0.52*	*0.50*
Finished Motor Gasoline	**-0.76**	**-0.73**	**-0.81**	**-0.83**	**-0.75**	**-0.69**	*-0.79*	*-0.84*	*-0.80*	*-0.67*	*-0.69*	*-0.75*	**-0.78**	*-0.77*	*-0.73*
Jet Fuel	**-0.04**	**-0.06**	**-0.11**	**-0.03**	**-0.05**	**-0.02**	*0.09*	*0.11*	*0.15*	*0.20*	*0.19*	*0.19*	**-0.06**	*0.04*	*0.18*
Distillate Fuel Oil	**-0.81**	**-1.15**	**-1.29**	**-1.05**	**-0.76**	**-1.00**	*-1.14*	*-1.08*	*-0.88*	*-1.15*	*-1.27*	*-1.06*	**-1.07**	*-1.00*	*-1.09*
Residual Fuel Oil	**0.14**	**0.10**	**0.10**	**0.09**	**0.01**	**-0.05**	*0.07*	*0.09*	*0.06*	*0.06*	*0.07*	*0.14*	**0.11**	*0.03*	*0.08*
Other Oils (g)	**-0.54**	**-0.59**	**-0.49**	**-0.53**	**-0.58**	**-0.50**	*-0.47*	*-0.63*	*-0.55*	*-0.64*	*-0.63*	*-0.67*	**-0.54**	*-0.54*	*-0.62*
Product Inventory Net Withdrawals	**0.42**	**-0.25**	**-0.26**	**-0.06**	**0.30**	**-0.47**	*-0.47*	*0.43*	*0.30*	*-0.46*	*-0.17*	*0.47*	**-0.04**	*-0.05*	*0.04*
Total Supply	**20.22**	**20.27**	**20.47**	**20.16**	**20.00**	**20.48**	*20.68*	*20.59*	*20.52*	*20.72*	*21.08*	*20.82*	**20.28**	*20.44*	*20.79*
Consumption (million barrels per day)															
Hydrocarbon Gas Liquids	**3.87**	**3.43**	**3.48**	**3.57**	**3.68**	**3.44**	*3.51*	*3.87*	*4.02*	*3.51*	*3.63*	*3.93*	**3.59**	*3.62*	*3.77*
Other HC/Oxygenates	**0.13**	**0.17**	**0.17**	**0.19**	**0.22**	**0.22**	*0.20*	*0.23*	*0.24*	*0.26*	*0.27*	*0.30*	**0.16**	*0.22*	*0.27*
Unfinished Oils	**0.13**	**0.04**	**0.11**	**0.10**	**0.05**	**0.04**	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	**0.09**	*0.02*	*0.00*
Motor Gasoline	**8.47**	**9.00**	**8.88**	**8.75**	**8.67**	**9.19**	*9.08*	*8.73*	*8.65*	*9.11*	*9.17*	*8.79*	**8.78**	*8.92*	*8.93*
Fuel Ethanol blended into Motor Gasoline	**0.87**	**0.93**	**0.92**	**0.93**	**0.90**	**0.96**	*0.96*	*0.92*	*0.90*	*0.96*	*0.96*	*0.94*	**0.91**	*0.93*	*0.94*
Jet Fuel	**1.45**	**1.61**	**1.60**	**1.58**	**1.55**	**1.66**	*1.77*	*1.71*	*1.66*	*1.78*	*1.82*	*1.75*	**1.56**	*1.67*	*1.75*
Distillate Fuel Oil	**4.14**	**3.89**	**3.86**	**3.96**	**4.01**	**3.88**	*3.78*	*3.97*	*4.05*	*3.93*	*3.86*	*3.98*	**3.96**	*3.91*	*3.96*
Residual Fuel Oil	**0.38**	**0.31**	**0.39**	**0.30**	**0.29**	**0.19**	*0.32*	*0.33*	*0.26*	*0.27*	*0.32*	*0.34*	**0.34**	*0.28*	*0.30*
Other Oils (g)	**1.65**	**1.82**	**1.99**	**1.71**	**1.53**	**1.87**	*2.02*	*1.75*	*1.63*	*1.86*	*2.00*	*1.73*	**1.79**	*1.79*	*1.80*
Total Consumption	**20.22**	**20.27**	**20.47**	**20.16**	**20.00**	**20.48**	*20.68*	*20.59*	*20.52*	*20.72*	*21.08*	*20.82*	**20.28**	*20.44*	*20.79*
Total Petroleum and Other Liquids Net Imports	**-0.74**	**-1.18**	**-1.32**	**-1.79**	**-1.64**	**-1.63**	*-0.78*	*-1.63*	*-1.36*	*-1.03*	*-1.27*	*-2.11*	**-1.26**	*-1.42*	*-1.44*
End-of-period Inventories (million barrels)															
Commercial Inventory															
Crude Oil (excluding SPR)	**414.4**	**417.5**	**428.8**	**429.6**	**465.4**	**451.7**	*429.3*	*432.6*	*459.9*	*447.0*	*428.6*	*436.2*	**429.6**	*432.6*	*436.2*
Hydrocarbon Gas Liquids	**142.0**	**186.7**	**243.6**	**211.1**	**174.3**	**227.1**	*265.5*	*221.2*	*179.0*	*226.1*	*264.1*	*218.8*	**211.1**	*221.2*	*218.8*
Unfinished Oils	**87.9**	**88.8**	**82.3**	**86.1**	**88.6**	**86.1**	*88.1*	*81.0*	*91.0*	*87.9*	*86.9*	*79.3*	**86.1**	*81.0*	*79.3*
Other HC/Oxygenates	**34.1**	**29.4**	**27.3**	**31.7**	**34.3**	**31.2**	*30.9*	*31.2*	*33.2*	*32.0*	*31.7*	*32.0*	**31.7**	*31.2*	*32.0*
Total Motor Gasoline	**238.5**	**221.0**	**209.6**	**224.3**	**225.3**	**219.7**	*229.3*	*239.9*	*240.8*	*236.5*	*224.6*	*237.1*	**224.3**	*239.9*	*237.1*
Finished Motor Gasoline	**17.3**	**17.1**	**17.6**	**17.4**	**14.7**	**17.2**	*22.2*	*22.3*	*19.4*	*19.7*	*23.1*	*23.2*	**17.4**	*22.3*	*23.2*
Motor Gasoline Blend Comp.	**221.2**	**203.8**	**192.0**	**206.9**	**210.6**	**202.4**	*207.0*	*217.6*	*221.3*	*216.8*	*201.5*	*213.9*	**206.9**	*217.6*	*213.9*
Jet Fuel	**35.6**	**39.3**	**36.2**	**35.0**	**37.7**	**41.3**	*40.9*	*39.9*	*39.6*	*41.4*	*42.5*	*39.3*	**35.0**	*39.9*	*39.3*
Distillate Fuel Oil	**114.6**	**111.4**	**110.5**	**118.8**	**112.3**	**113.5**	*118.8*	*120.2*	*111.7*	*115.7*	*116.3*	*115.8*	**118.8**	*120.2*	*115.8*
Residual Fuel Oil	**27.9**	**29.2**	**27.3**	**30.7**	**29.6**	**30.9**	*28.4*	*28.0*	*29.4*	*28.7*	*26.9*	*26.3*	**30.7**	*28.0*	*26.3*
Other Oils (g)	**58.5**	**56.4**	**49.5**	**54.2**	**63.3**	**57.8**	*48.6*	*50.1*	*59.3*	*57.3*	*48.0*	*49.5*	**54.2**	*50.1*	*49.5*
Total Commercial Inventory	**1153.6**	**1179.7**	**1215.1**	**1221.6**	**1230.8**	**1259.3**	*1279.9*	*1244.1*	*1243.7*	*1272.5*	*1269.7*	*1234.1*	**1221.6**	*1244.1*	*1234.1*
Crude Oil in SPR	**566.1**	**493.3**	**416.4**	**372.0**	**371.2**	**346.9**	*353.2*	*353.2*	*353.2*	*353.2*	*353.2*	*353.2*	**372.0**	*353.2*	*353.2*

(a) Includes lease condensate.

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

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

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

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

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

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

- = no data available

SPR: Strategic Petroleum Reserve

HC: Hydrocarbons

Notes: EIA completed modeling and analysis for this report on July 6, 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 - July 2023

	2022				2023				2024				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2022	2023	2024
Supply (billion cubic feet per day)															
Total Marketed Production	**103.27**	**106.18**	**108.27**	**108.90**	**110.70**	**111.35**	*112.21*	*111.33*	*110.87*	*110.59*	*111.68*	*113.00*	**106.67**	*111.40*	*111.54*
Alaska	**1.06**	**1.00**	**0.96**	**1.07**	**1.08**	**0.98**	*0.86*	*0.98*	*1.00*	*0.92*	*0.84*	*0.97*	**1.02**	*0.97*	*0.93*
Federal GOM (a)	**2.05**	**2.11**	**2.19**	**2.12**	**2.14**	**2.07**	*2.18*	*2.18*	*2.19*	*2.13*	*2.00*	*2.01*	**2.12**	*2.14*	*2.08*
Lower 48 States (excl GOM)	**100.16**	**103.07**	**105.12**	**105.71**	**107.48**	**108.30**	*109.16*	*108.16*	*107.69*	*107.54*	*108.84*	*110.01*	**103.53**	*108.28*	*108.52*
Total Dry Gas Production	**95.09**	**97.59**	**99.46**	**100.29**	**101.96**	**102.21**	*103.01*	*102.21*	*101.79*	*101.53*	*102.53*	*103.74*	**98.13**	*102.35*	*102.40*
LNG Gross Imports	**0.15**	**0.01**	**0.07**	**0.05**	**0.09**	**0.03**	*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**	**12.06**	*12.30*	*12.34*	*12.72*	*12.82*	*13.09*	*14.61*	**10.59**	*12.04*	*13.31*
Pipeline Gross Imports	**8.89**	**7.73**	**7.84**	**8.41**	**8.45**	**7.07**	*7.09*	*7.45*	*8.18*	*6.81*	*7.04*	*7.44*	**8.22**	*7.51*	*7.36*
Pipeline Gross Exports	**8.46**	**8.52**	**8.13**	**8.19**	**8.88**	**8.17**	*8.70*	*9.18*	*9.48*	*8.88*	*9.21*	*9.64*	**8.32**	*8.73*	*9.30*
Supplemental Gaseous Fuels	**0.21**	**0.17**	**0.18**	**0.16**	**0.19**	**0.17**	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	*0.18*	**0.18**	*0.18*	*0.18*
Net Inventory Withdrawals	**20.14**	**-10.25**	**-8.94**	**2.35**	**11.95**	**-11.57**	*-7.04*	*3.96*	*14.23*	*-12.15*	*-6.82*	*2.93*	**0.75**	*-0.72*	*-0.46*
Total Supply	**104.52**	**75.94**	**80.72**	**92.73**	**102.32**	**77.67**	*82.27*	*92.34*	*102.27*	*74.70*	*80.68*	*90.11*	**88.43**	*88.61*	*86.93*
Balancing Item (b)	**0.30**	**0.19**	**0.05**	**-0.11**	**0.65**	**0.66**	*0.92*	*-0.58*	*0.81*	*0.84*	*1.42*	*0.45*	**0.10**	*0.41*	*0.88*
Total Primary Supply	**104.83**	**76.13**	**80.77**	**92.62**	**102.97**	**78.33**	*83.19*	*91.76*	*103.08*	*75.54*	*82.10*	*90.56*	**88.53**	*89.02*	*87.81*
Consumption (billion cubic feet per day)															
Residential	**26.09**	**7.86**	**3.57**	**17.37**	**23.47**	**7.83**	*4.26*	*16.64*	*24.82*	*7.86*	*4.32*	*16.64*	**13.67**	*13.01*	*13.39*
Commercial	**15.61**	**6.67**	**4.74**	**11.69**	**14.52**	**6.63**	*5.13*	*11.59*	*15.18*	*6.86*	*5.18*	*11.64*	**9.66**	*9.45*	*9.71*
Industrial	**25.46**	**22.25**	**21.47**	**23.51**	**24.62**	**22.31**	*21.44*	*23.33*	*23.94*	*20.88*	*20.71*	*22.92*	**23.16**	*22.92*	*22.11*
Electric Power (c)	**28.39**	**30.99**	**42.36**	**30.94**	**30.78**	**32.86**	*43.44*	*30.99*	*29.50*	*31.39*	*43.03*	*30.09*	**33.20**	*34.54*	*33.52*
Lease and Plant Fuel	**5.26**	**5.41**	**5.51**	**5.55**	**5.64**	**5.67**	*5.72*	*5.67*	*5.65*	*5.63*	*5.69*	*5.76*	**5.43**	*5.67*	*5.68*
Pipeline and Distribution Use	**3.86**	**2.80**	**2.98**	**3.41**	**3.79**	**2.88**	*3.07*	*3.40*	*3.84*	*2.78*	*3.03*	*3.36*	**3.26**	*3.28*	*3.25*
Vehicle Use	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	**0.15**	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	**0.15**	*0.15*	*0.15*
Total Consumption	**104.83**	**76.13**	**80.77**	**92.62**	**102.97**	**78.33**	*83.19*	*91.76*	*103.08*	*75.54*	*82.10*	*90.56*	**88.53**	*89.02*	*87.81*
End-of-period Inventories (billion cubic feet)															
Working Gas Inventory	**1,401**	**2,325**	**3,146**	**2,927**	**1,850**	**2,900**	*3,548*	*3,184*	*1,889*	*2,994*	*3,621*	*3,352*	**2,927**	*3,184*	*3,352*
East Region (d)	**242**	**482**	**759**	**698**	**334**	**644**	*871*	*729*	*346*	*651*	*848*	*754*	**698**	*729*	*754*
Midwest Region (d)	**296**	**557**	**917**	**831**	**417**	**711**	*1,020*	*880*	*427*	*728*	*1,015*	*906*	**831**	*880*	*906*
South Central Region (d)	**587**	**885**	**1,006**	**1,042**	**919**	**1,134**	*1,138*	*1,112*	*800*	*1,145*	*1,190*	*1,180*	**1,042**	*1,112*	*1,180*
Mountain Region (d)	**90**	**137**	**184**	**158**	**79**	**171**	*233*	*197*	*128*	*167*	*227*	*196*	**158**	*197*	*196*
Pacific Region (d)	**165**	**240**	**247**	**169**	**74**	**209**	*253*	*235*	*162*	*274*	*308*	*286*	**169**	*235*	*286*
Alaska	**21**	**25**	**32**	**30**	**27**	**31**	*34*	*31*	*25*	*28*	*33*	*29*	**30**	*31*	*29*

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

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

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

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

- = no data available

LNG: liquefied natural gas.

Notes: EIA completed modeling and analysis for this report on July 6, 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.

Centrica signs major LNG supply agreement

https://www.centrica.com/media-centre/news/2023/centrica-signs-major-lng-supply-agreement/
July 11, 2023

Centrica and Delfin Midstream Inc. today announced the signature of a long-term Sale and Purchase Agreement for 1.0 million tonnes per annum (MTPA) of Liquefied Natural Gas (“LNG”) for 15-years on a Free on Board (“FOB”) basis at the Delfin Deepwater Port, located 40 nautical miles off the coast of Louisiana. This agreement will see Centrica take delivery of around 14 LNG cargoes per year and could provide enough energy to heat 5% of UK homes for 15 years.

The deal, with a market value of $8bn, marks an additional move by Centrica to build further resilience in the UK’s energy security. It follows a three-year supply agreement with Equinor that will heat 4.5m UK homes through to 2024 and the reopening of the Rough gas storage facility in October 2022. Rough now provides half of the UK’s total gas storage capacity with the potential to store over 50 billion cubic feet (bcf) of gas, enough to heat almost 10% of UK homes throughout winter.

"As well as strengthening the trade links between the UK and US, this deal – alongside reopening Rough and our major deal with Equinor – shows that Centrica is investing heavily to future-proof the UK’s energy supply and address one of the underlying causes of the energy crisis"

Chris O'Shea, Centrica Group CEO

As a foundation customer of the Delfin LNG project, Centrica’s offtake underpins investment in the next wave of incremental LNG supply from the US. It will complement a diversified and flexible LNG portfolio.

Chris O’Shea, Group Chief Executive, Centrica said:

“This agreement is good news for our customers and the country. The last year has demonstrated the critical importance of investing in the UK’s energy security. Addressing the immediate impact of the energy crisis on our customers has been one of our biggest priorities, but I’m acutely aware that we also need to look ahead to manage future risks and secure our supplies.

"Natural Gas is an essential transition fuel in the move to net zero and securing international agreements such as this are vital to the UK’s energy security. As well as strengthening the trade links between the UK

and US, this deal – alongside reopening Rough and our major deal with Equinor – shows that Centrica is investing heavily to future-proof the UK's energy supply and address one of the underlying causes of the energy crisis. We stand ready to invest several billion pounds in additional projects, creating thousands of new UK jobs, with the right regulatory framework."

Dudley Poston, CEO of Delfin said:

"We are excited to finalize this SPA with Centrica, converting our previously announced Heads of Agreement and reaching another important milestone for our Deepwater Port LNG Export Facility.

"There is growing global demand for long-term, scalable LNG supply. With the off-take capacity for Delfin's first FLNG Vessel now sold, we continue to move towards Final Investment Decision and bring this important project forward, becoming a partner to countries like the U.K. as it continues to make progress bolstering national energy security and driving down prices with clean, reliable LNG."

The deal follows a Heads of Agreement between Centrica and Delfin in August 2022. Operations and first LNG are expected to commence at the Delfin Deepwater Port in 2027.

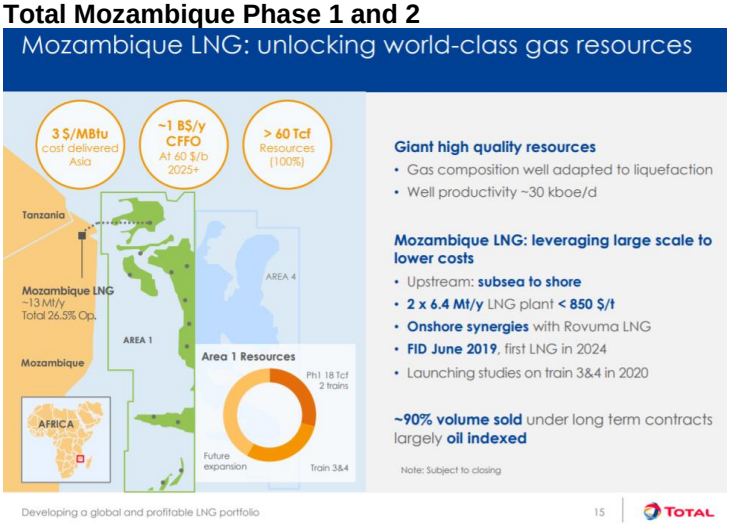
Multiple Brownfield LNG FIDs Now Needed To Fill New LNG Supply Gap From Mozambique Chaos? How About LNG Canada Phase 2?

Posted Wednesday April 28, 2021. 9:00 MT

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

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

Total Mozambique Phase 1 and 2



Source: Total Investor Day September 24, 2019

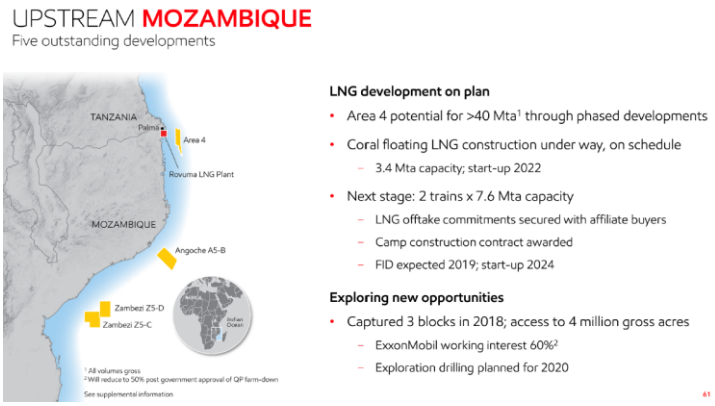
Total's Mozambique force majeure is no surprise, especially the need to the restoration of security and stability "in a sustained manner". Yesterday, Total announced [LINK] "*Considering the evolution of the security".* No one should be surprised by the force majeure or the sustained manner caveat. SAF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

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

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

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

Exxon Mozambique LNG



Source: Exxon Investor Day March 6, 2019

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

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

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

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

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

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

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

Source: IEA

On Track More Efforts Needed Not on Track

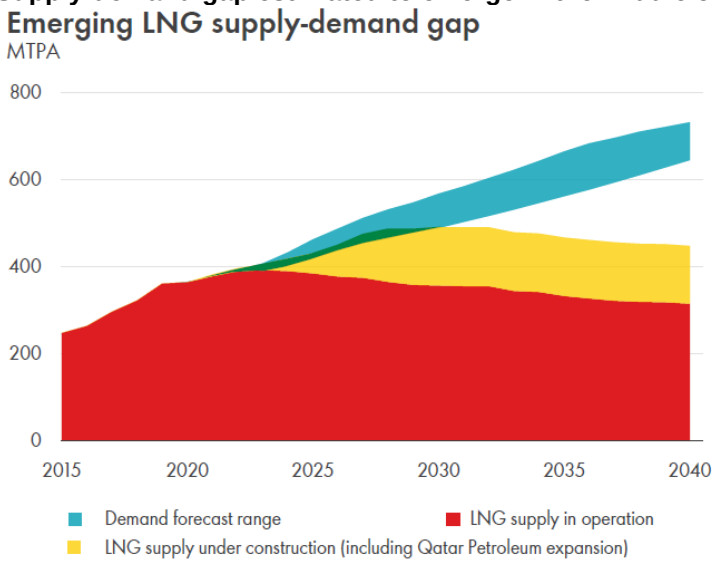
Source: IEA Tracking Clean Energy Progress, June 2020

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

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

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

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



Source: Shell LNG Outlook 2021, Feb 25, 2021

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

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

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

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

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

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.*

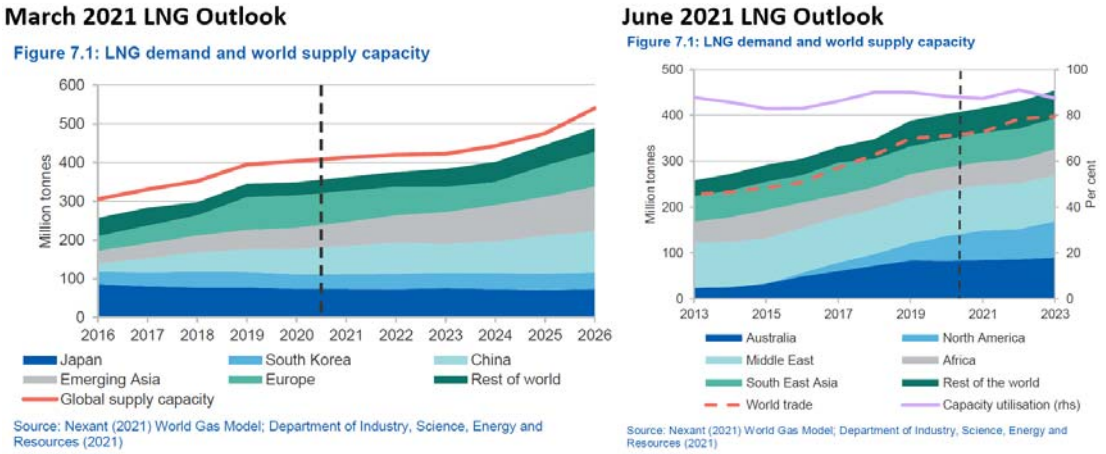
Common theme - new LNG supply is being delayed ie. [Total] Mozambique. Don't forget need capacity>demand due to normal maintenance, etc. Positive for LNG." (ii) Chevron's Gorgon. A big LNG story in H2/20 was the emergence of weld quality issues in the propane heat exchangers at Train 2, which required 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

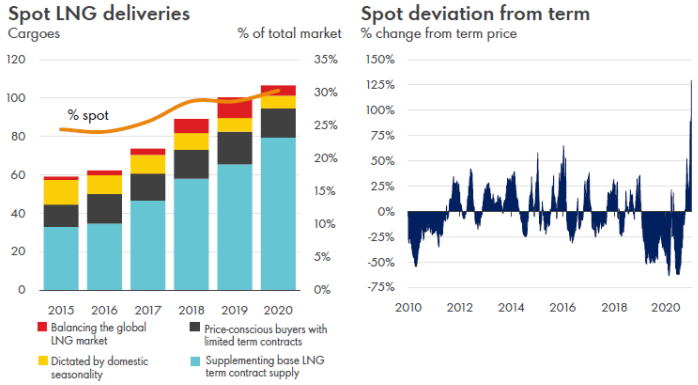


Source: Australia Resources and Energy Quarterly

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.

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

NORTH Dakota | Mineral Resources
Be Legendary.™

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

Oil Production Numbers

April	34,072,894 barrels	= 1,135,763 barrels/day (final) **RF +14%**
New Mexico	52,904,513 barrels	= 1,763,484 barrels/day **+1%**
May	35,139,418 barrels	= 1,133,530 barrels/day **+0% RF +13%**
	1,519,037	all-time high Nov 2019
	1,091,811 barrels/day	= 96% from Bakken and Three Forks
	41,719 barrels/day	= 4% from Legacy Pools

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

Crude Price ($barrel)	**ND Light Sweet**	**WTI**	**ND Market**
April	75.23	79.44	75.16
May	65.82	71.62	67.41 **RF-10%**
Today	71.25	76.89	74.07 **RF-1%**
All-time high (6/2008)	125.62	134.02	126.75
Revised Revenue Forecast			**75.00**

Gas Production and Capture

April	93,583,536 MCF	=	3,119,451 MCF/Day
95% Capture	89,254,274 MCF	=	2,975,142 MCF/Day
May	97,847,586 MCF	=	3,156,374 MCF/Day **+1%**
95% Capture	93,096,046 MCF	=	3,003,098 MCF/Day
			3,179,517 all-time high 9/2022
			3,021,655 all-time high capture 9/2022

Wells Permitted	Drilling	
April	89	
May	63	
June	85	All-time high 370 in 10/2012

Rig Count		
April	45	
May	43	
June	37	
Today	36	All-time high 218 on 5/29/2012
Federal Surface	0	
New Mexico	111	

Waiting on Completions	
April	458
May	459

Inactive	
April	1,899
May	1,779

Completed	
April	51 (Preliminary)
May	138 (Preliminary)
June	85 (Preliminary)
Revised Rev Forecast	30-40-50-60

Producing		
April	17,768	
May	17,913 (Preliminary)	**NEW** All-time high 17,913 in 5/2023
	15,622 wells	87% are now unconventional Bakken/Three Forks Wells
	2,291 wells	13% 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	0

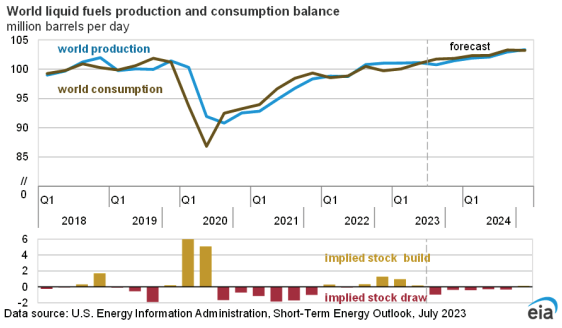
Weekly updates are available at Initial Grant Information - Plugging and Reclamation | Department of Mineral Resources, North Dakota

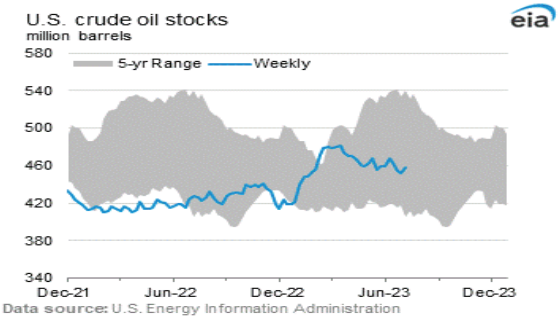
Fort Berthold Reservation Activity

	Total	Fee Land	Trust Land
Oil Production (barrels/day)	136,319	47,968	88,351
Drilling Rigs	3	0	3
Active Wells	2,648	648	2,000
Waiting on Completion	26		
Approved Drilling Permits	166	15	151
Potential Future Wells	3,904	1,116	2,788

Comments:

The drilling rig count has fallen to 36 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 20 frac crews currently active.

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

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

US Appeals Court for the ninth circuit upholding of a lower court ruling protecting the Swinomish Indian Tribal Community's right to sue to enforce an agreement that restricts the number of trains that can cross its reservation in northwest Washington state.

DAPL Civil Action No. 16-1534 continues, but the courts have now ruled that DAPL can continue normal operations until the USACOE EIS is completed.

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

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

US natural gas storage is 14% 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 increased to $2.13/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 April to May increased 9 MMCFD to 153 MMCF per day, the statewide percent flared was unchanged at 5% and Bakken gas capture percentage increased to 96%. The historical high flared percent was 36% in 09/2011.

Gas capture details are as follows:

Statewide	95%
Statewide Bakken	96%
Non-FBIR Bakken	95%
FBIR Bakken	97%
Trust FBIR Bakken	97%
Fee FBIR	96%
Deep Water Creek Bay	75%
Twin Buttes	56%
Charlson	86%

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.

Declare that Federal Defendants are in violation of MLA, FLPMA, NEPA, and APA.

MONTHLY UPDATE

JULY 2023 PRODUCTION & TRANSPORTATION

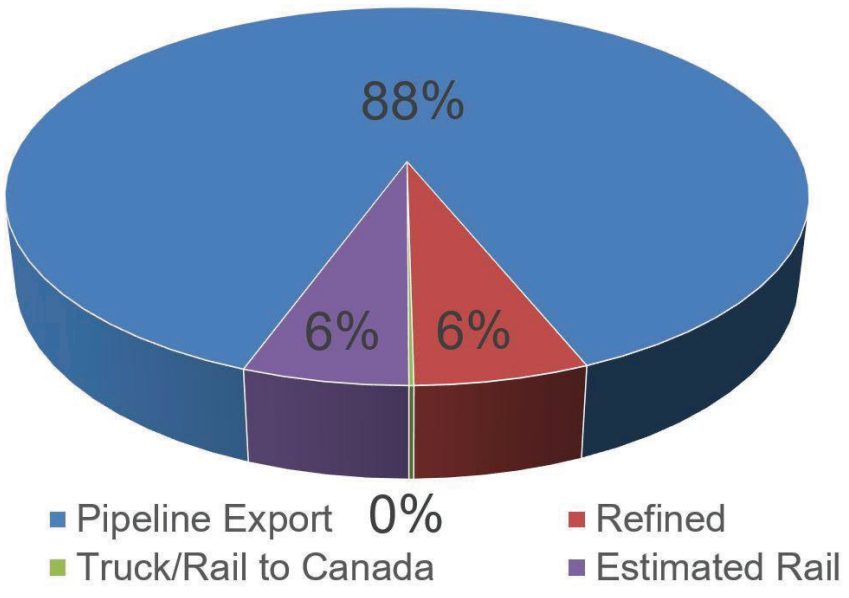
North Dakota Oil Production

Month	Monthly Total, BBL	Average, BOPD
Apr. 2023 - Final	34,072,894	1,135,763
May 2023 - Prelim.	35,139,418	1,133,530

North Dakota Natural Gas Production

Month	Monthly Total, MCF	Average, MCFD
Apr. 2023 - Final	93,583,536	3,119,451
May 2023 - Prelim.	97,847,586	3,156,374

Estimated Williston Basin Oil Transportation, May 2023



CURRENT DRILLING ACTIVITY:

NORTH DAKOTA[1]

37 Rigs

EASTERN MONTANA[2]

0 Rigs

SOUTH DAKOTA[2]

0 Rigs

SOURCE (JULY 14, 2023):

1. ND Oil & Gas Division
2. Baker Hughes

PRICES:

Crude (WTI): $75.65

Crude (Brent): $80.16

NYMEX Gas: $2.52

SOURCE: BLOOMBERG (JULY 14, 2023 1PM EST)

GAS STATS*

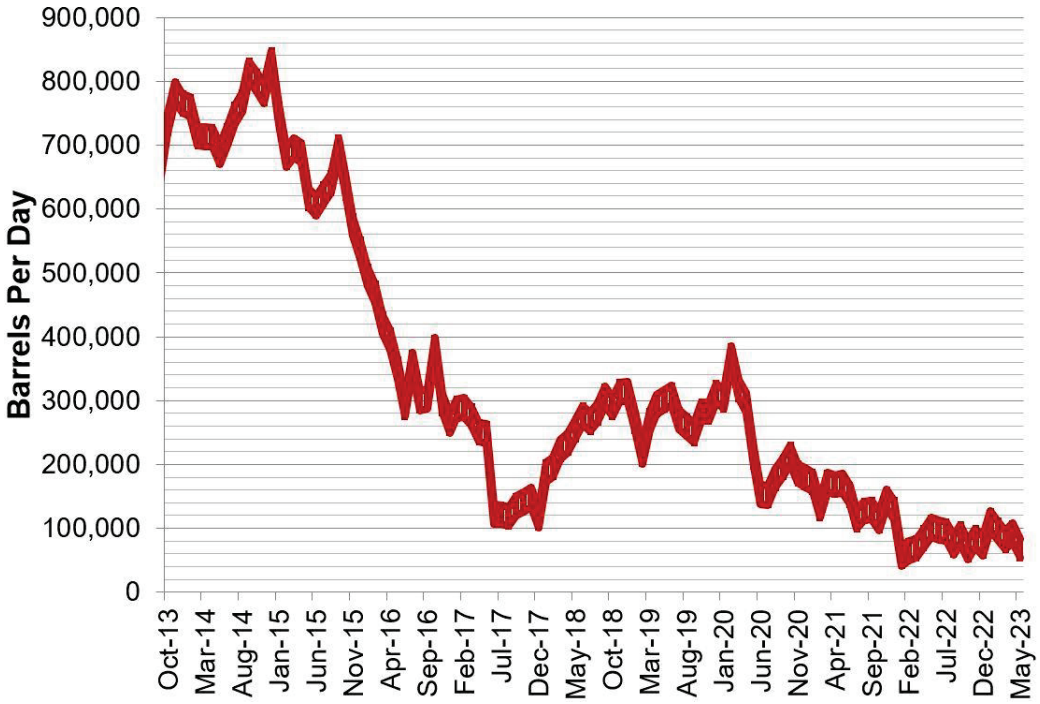
95% CAPTURED & SOLD

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

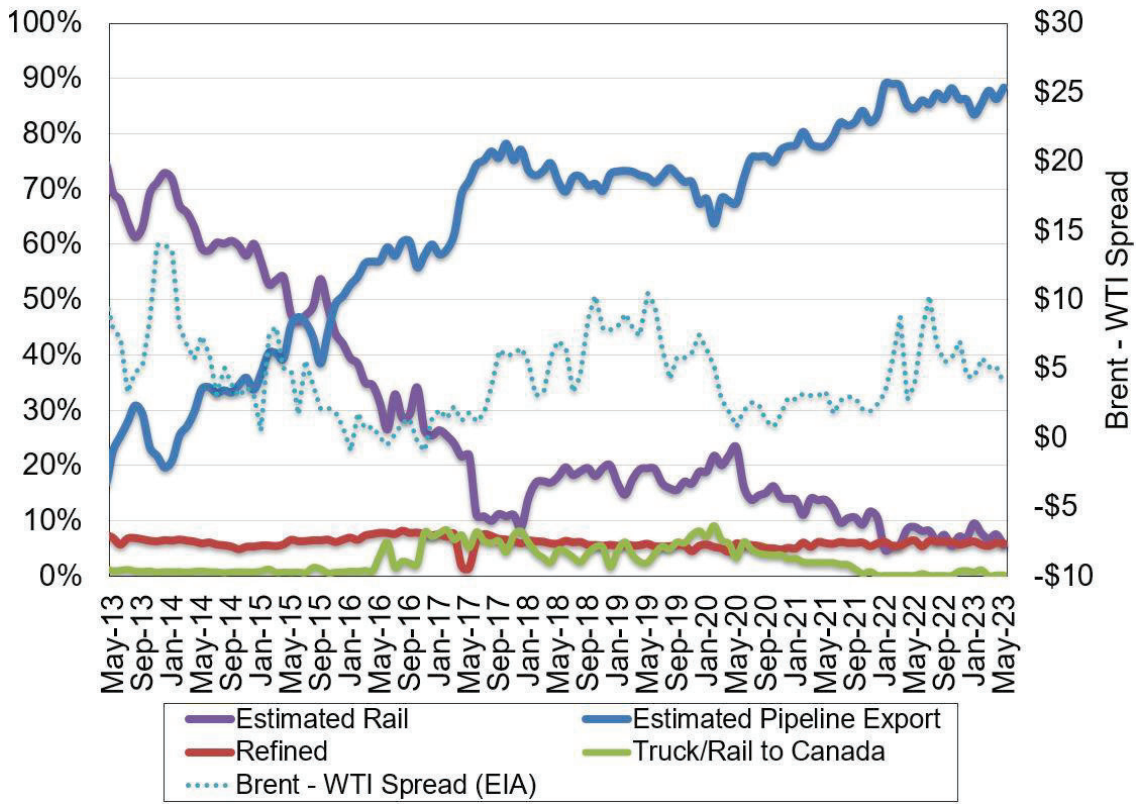
1% FLARED FROM WELL WITH ZERO SALES

MAY 2023 NON-CONF DATA

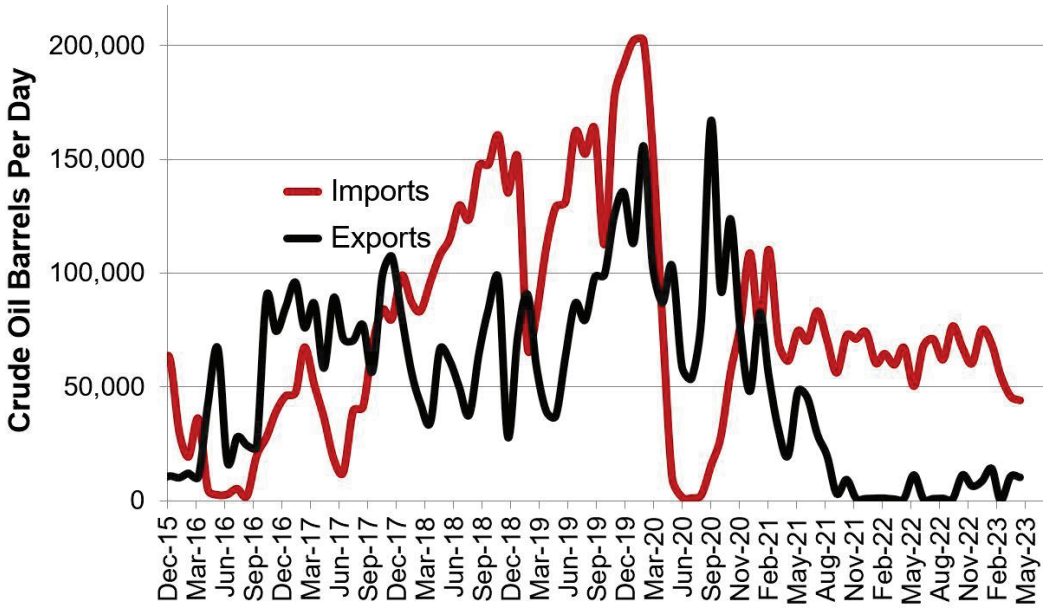
Estimated North Dakota Rail Export Volumes



Estimated Williston Basin Oil Transportation

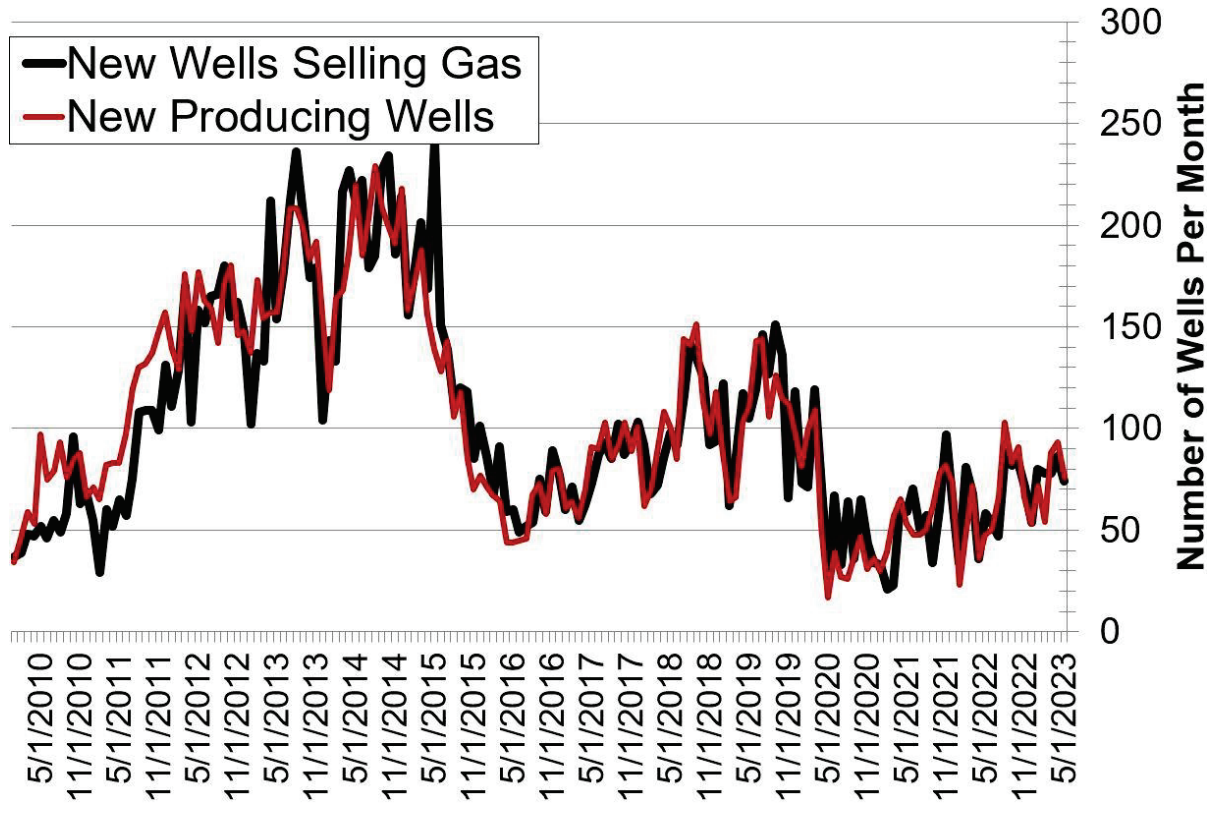


Williston Basin Truck/Rail Imports and Exports with Canada



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	1,062,627	62,039	2,610	1,127,276
February	1,158,880	63,483	2,475	1,224,838
March	1,124,289	64,465	2,652	1,191,406
April	1,135,763	61,066	2,557	1,199,386
May	1,133,530		2,560	
June				
July				
August				
September				
October				
November				
December				

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

https://www.reuters.com/business/energy/mexicos-pemex-lose-some-100000-bpd-crude-this-month-after-fire-source-2023-07-11/

Exclusive: Mexico's Pemex to lose some 100,000 bpd of crude this month after fire -source

By Ana Isabel Martinez

July 11, 202312:20 PM MDTUpdated 5 hours ago

[1/3]Boats spray water onto an offshore oil platform that caught fire at the Pemex's Cantarell Field, in the Bay of Campeche, Gulf of Mexico, Mexico July 7, 2023. Courtesy Petroleos Mexicanos (PEMEX) @Pemex/Handout via REUTERS/File Photo

MEXICO CITY, July 11 (Reuters) - Mexico's state oil company Petroleos Mexicanos will see its crude output reduced by some 100,000 barrels per day (bpd) until the beginning of August after a massive fire on Friday at an offshore platform, a top company source said.

The reduced production implies that in total Pemex will lose at least 2 million barrels of crude through the end of July, according to Reuters estimates. The source agreed on the calculation.

Pemex did not immediately reply to a request for comment.

Fire broke out at dawn Friday on the platform Nohoch-A, later spreading to a compression facility at the iconic Cantarell field, which used to be Pemex's largest producing field. The accident left at least two people dead.

Pemex, which produces in total about 1.6 million bpd of oil, said on Saturday it had an output loss of 700,000 barrels on the day of the accident at the Gulf of Mexico gas processing hub explaining "it shut down practically all the wells in the area."

By Saturday, the company said it had already recovered some 600,000 barrels per day.

But the source said that fully recovering production will only be possible at the beginning of August. That means output from Pemex's offshore fields, from which the company extracts most of its oil, will be impacted in the meantime. He did not provide details on the company's schedule to progressively restart output.

"We are short of a little less than 100,000 barrels (per day). We expect that by the first days of August we will recover all the crude," he said.

MOUNTING CLAIMS

Cantarell, which produced more than 2 million bpd of oil two decades ago, currently produces about 170,000 bpd. Along with Ku-Maloob-Zaap, which contributes some 620,000 bpd from Pemex's

northeastern marine region, they provide around 41% of the company's total production of 1.9 million bpd of crude and condensate.

Pemex has had several severe accidents in recent years at its facilities, including refineries and production hubs. In August 2021, a gas leak from an offshore platform triggered a fire that killed seven workers and caused the loss of 1.6 million barrels of oil output.

The government blames previous administrations for the condition of Pemex saying it inherited the company on the verge of bankruptcy. Opponents and analysts say the company's management during the current administration has been ineffective at growing production and preventing accidents.

Pemex said on Friday the fire had been extinguished promptly, preventing its spread to four other processing centers, which are part of the so-called Sonda de Campeche, a series of marine fields about 85 kilometers from Ciudad del Carmen, in the southeastern state of Campeche.

Pemex's safety performance indicators have deteriorated according to its own figures.

The accumulated frequency index -accidents per million man-hours worked- rose to 0.58 in the first quarter of 2023 from 0.37 in the same period of the previous year, while the accumulated severity index -days lost per million man-hours worked- went to 32 from 11 in the same period.

Reporting by Ana Isabel Martinez; Editing by Conor Humphries

Oil Market Highlights

Crude Oil Price Movements

The OPEC Reference Basket (ORB) declined by 63¢, or 0.8%, m-o-m to average $75.19/b in June. The ICE Brent front-month contract fell by 71¢, or 0.9%, m-o-m to $74.98/b, and the NYMEX WTI front-month contract declined by $1.35, or 1.9%, m-o-m to average $70.27/b. The DME Oman front-month contract rose by 13¢, or 0.2%, m-o-m to settle at $74.91/b. The front-month ICE Brent/NYMEX WTI spread widened by 64¢ m-o-m to average $4.71/b in June. The futures forward curves of ICE Brent, NYMEX WTI and DME Oman weakened during the month, and hedge funds and other money managers heavily cut bullish positions in ICE Brent and NYMEX WTI, extending the previous month's selloffs.

World Economy

World economic growth in 2023 remains broadly unchanged at 2.6% and the initial forecast for 2024 economic growth is expected at 2.5%. US economic growth for 2023 is revised up slightly to stand at 1.4%, followed by 0.7% for 2024. Euro-zone economic growth for 2023 is revised down slightly to stand at 0.7%, while growth in 2024 is forecast at 0.8%. Japan's economic growth for 2023 is revised up slightly to 1.1%, while growth in 2024 is forecast at 1.0%. China's 2023 economic growth remains at 5.2%, with economic growth forecast in 2024 at 4.8%. India's economic growth remains at 5.6% in 2023 and is expected to expand by 5.9% in 2024. Brazil's economic growth in 2023 is revised up to 1.3% and is expected to grow by 1.1% in 2024. Russia's economic growth in 2023 is revised up to 0.4% and a further recovery is anticipated for 2024 with a growth forecast of 0.8%.

World Oil Demand

World oil demand is expected to grow by 2.4 mb/d in 2023, following an upward revision of about 0.1 mb/d from last month's assessment, mainly due to higher demand seen in China in 2Q23. OECD Americas is revised up slightly to account for a better-than-expected performance in the US in 2Q23. Similarly, OECD Europe is revised up slightly in 1Q23. In the non-OECD, demand was also revised upward to account for bullish oil demand seen in China in 2Q23 and a slight improvement in Latin America over the same period. For 2024, world oil demand is forecast to grow by a healthy 2.2 mb/d, reaching about 104.25 mb/d. The OECD is anticipated to expand by 0.26 mb/d, with OECD Americas contributing the largest increase. The non-OECD is set to drive growth, increasing by almost 2.0 mb/d, with China, the Middle East and other Asia accounting for the bulk of this growth, with further support from India, Latin America, and Africa.

World Oil Supply

Non-OPEC liquids supply is expected to expand by 1.4 mb/d in 2023, broadly unchanged from the previous month's assessment. The main drivers of liquids supply growth for 2023 are expected to be the US, Brazil, Norway, Canada, Kazakhstan and Guyana, while the decline is expected mainly in Russia. There remain uncertainties related to US shale oil output potential and unplanned maintenance in 2023. For 2024, non-OPEC liquids production is expected to grow by 1.4 mb/d. The main drivers for liquids supply growth are expected to be the US, Canada, Guyana, Brazil, Norway and Kazakhstan, while the largest declines are expected in Mexico and Azerbaijan. OPEC NGLs and non-conventional liquids are forecast to grow by 50 tb/d in 2023 to an average of 5.44 mb/d and by another 65 tb/d to an average of 5.51 mb/d in 2024. OPEC-13 crude oil production in June increased by 91 tb/d m-o-m to an average 28.19 mb/d, according to available secondary sources.

Product Markets and Refining Operations

Refinery margins rose in June to show solid gains across regions. In the US Gulf Coast (USGC), margins recovered from the previous months' losses to reach a three-month high. Gains were seen across the barrel, particularly for gasoline, as firm-driving activities supported product markets. In Rotterdam, refining margins were mostly supported by a strong performance at the middle and bottom sections of the barrel, while temporary unplanned outages led to a contraction of product balances in Northwest Europe and this weighed on ARA key product inventories. In Singapore, margin gains were more limited, as the strength in transport fuels was partly offset by negative performance in naphtha and high sulphur fuel oil (HSFO) markets. Global refinery intake in June continued to trend upwards and was 953 tb/d higher m-o-m at 81.9 mb/d, according to preliminary estimates. In the coming months, refinery intakes are expected to continue to be supported by seasonal fuel consumption.

Tanker Market

Dirty freight rates continued to show mixed movement in June. VLCCs partially recovered from the previous month's decline, with Middle East-to-East spot freight rates up 27% m-o-m, amid increased flows to the East. A pickup in Atlantic basin activity and on eastward routes helped to firm sentiment in the larger vessel class, supporting rates. Suezmax rates returned some of the previous month's gains, with rates on the USGC-to-Europe route declining 20%, amid more limited activity. Aframax spot freight rates fell across the board, with rates on the Caribbean-to-US East Coast route dropping back from the very strong levels seen in May, down by 34%. Clean freight rates experienced declines across all reported routes in June, as West of Suez rates softened again and momentum in the East of Suez market dissipated further. Rates on the Middle East-to-East route fell by 16% m-o-m, while rates on the Singapore-to-East route fell 23% m-o-m.

Crude and Refined Products Trade

Preliminary data show US crude imports continued to pick up seasonally in June to average 6.5 mb/d. US crude exports recovered to an average of 4.1 mb/d, a three-month high. The latest data for China shows crude imports rebounding in May to average around 12.1 mb/d. The high level was driven by new capacity coming on-stream and a return of refineries from maintenance. China's product imports increased for the fourth consecutive month, reaching a record high of just under 2.5 mb/d. Gains were driven largely by outflows of LPG and fuel oil. India's crude imports in May declined for the third month in a row, averaging 4.7 mb/d. In contrast, both India's product imports and exports recovered from losses in the previous month m-o-m. Japan's crude imports averaged 2.5 mb/d in May, a drop of 0.4 mb/d, or almost 15%, m-o-m. Japan's product imports fell for the second consecutive month, driven primarily by a decline in naphtha inflows, which offset gains in gasoline and gasoil. Preliminary estimates show OECD Europe crude imports above March levels, amid increased flows to the Netherlands and France, although these were lower than in the same month last year. Product imports into the region are expected to move seasonally higher, supported by inflows to Turkey, remaining close to year-ago levels in May and June.

Commercial Stock Movements

Preliminary May 2023 data sees total OECD commercial oil stocks up m-o-m by 20.2 mb. At 2,815 mb, they were 101 mb lower than the latest five-year average and 140 mb below the 2015–2019 average. Within the components, crude and products stocks rose by 4.1 mb and 16.1 mb, respectively. OECD commercial crude stocks stood at 1,401 mb in May. This was 34 mb below the latest five-year average and 84 mb lower than the 2015–2019 average. Total product inventories stood at 1,414 mb, which was 67 mb lower than the latest five-year average and 56 mb below the 2015–2019 average. In terms of days of forward cover, OECD commercial stocks fell m-o-m by 0.4 days to stand at 60.2 days. This is 3.5 days lower than the latest five-year average and 1.8 days less than the 2015–2019 average.

Balance of Supply and Demand

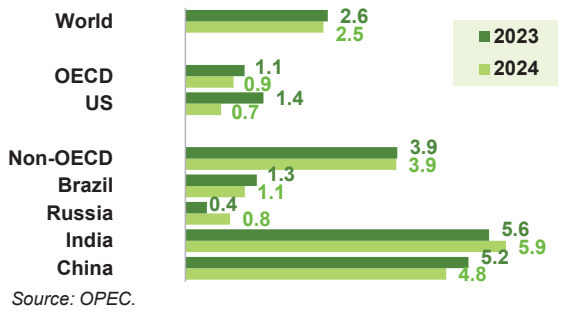
Demand for OPEC crude in 2023 is revised up by 0.1 mb/d from the previous month's assessment to stand at 29.4 mb/d. This is around 1.0 mb/d higher than in 2022. Based on the initial world oil demand and non-OPEC supply forecast for 2024, demand for OPEC crude is expected to reach 30.2 mb/d, 0.8 mb/d higher than the 2023 level.

Feature Article

The outlook for the oil market in 2024

World GDP growth in 2024 is forecast at 2.5%, slightly below this year's expected growth level of 2.6%. Key oil-consuming countries, including China and India, along with some other developing economies in Asia, will continue their healthy growth levels and be responsible for around half of next year's global economic growth. This is under the assumptions that general inflation will continue retraction in 2H23 and 2024. Tight monetary policies are also assumed to continue and key policy rates to peak by the end of 2023. Moreover, central banks are expected to engage in more accommodative monetary policies by 2H24. The services sector is expected to remain the main global economic growth driver for the remainder of 2023, with a normalization of the growth dynamic expected in 2024, when industrial production picks up again. In the OECD, GDP growth is expected at 0.9% in 2024, down from 1.1% in 2023. In the non-OECD, 2024 GDP growth is forecast at 3.9%, the same level as in 2023. Numerous uncertainties remain, to include high inflation, monetary tightening and high global debt levels.

Graph 1: GDP growth forecast, y-o-y changes, %

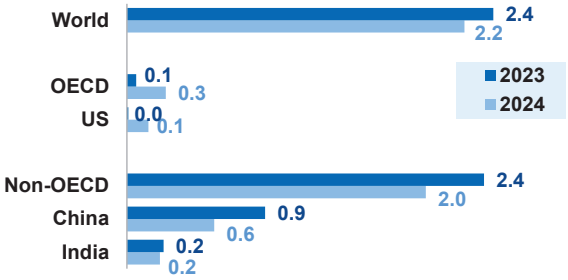


Source: OPEC.

Global oil demand in 2024 is set to grow y-o-y by a healthy 2.2 mb/d, on the back of a continued rebound in Chinese economic activity, and firm growth in other non-OECD countries. Within the regions, OECD oil demand is forecast to rise y-o-y by 0.26 mb/d, while non-OECD oil demand is projected to show a considerable increase of nearly 2.0 mb/d, mostly in China and India, and supported by incremental demand in other regions.

In terms of oil products, transportation fuels – including jet fuel and gasoline – are expected to drive oil demand growth in 2024, with air travel expected to see a further recovery and expansion. Gasoline requirements will continue to see support from steadily rising road mobility in major consuming countries, such as China, India and the US. Both on-road diesel, including trucking, as well as healthy industrial, construction and agricultural activities in non-OECD countries are expected to support diesel demand. Light distillates are projected to be supported by capacity additions, and petrochemical margins in non-OECD countries are expected to remain healthy.

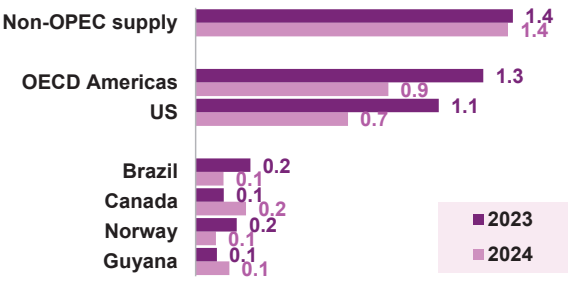
Graph 2: World oil demand growth forecast, y-o-y changes, mb/d



Source: OPEC.

Non-OPEC oil supply is forecast to grow y-o-y by 1.4 mb/d in 2024, supported by healthy demand and upstream investment. Upstream capex investment in non-OPEC countries is expected at around $480 billion, roughly the same level as 2023 and 9% more than in 2022. US liquids production growth in 2024 is forecast at 0.7 mb/d, mainly from Permian crude and non-conventional NGLs, as well as from the Gulf of Mexico. Oil production in Canada, Guyana, Brazil, Norway, Kazakhstan, and Argentina is forecast to increase through new field start-ups, ramp-ups or the optimization of existing projects.

Graph 3: Non-OPEC supply growth forecast, y-o-y changes, mb/d



Source: OPEC.

The continued commitment of the countries participating in the Declaration of Cooperation (DoC) and the successful approach of being precautious, proactive and pre-emptive and the carefully devised production adjustments have added a considerable measure of stability to global oil market, based on which the solid oil market fundamentals seen this year are expected to extend into 2024.

World Oil Demand

For 2023, world oil demand is foreseen to rise by 2.4 mb/d, slightly adjusted up from last month's estimate of 2.3 mb/d, mainly due to upward revision to China's oil demand in 2Q23. Total oil demand in 2023 is projected to average 102.00 mb/d. In 2Q23, demand is revised up on the back of strong y-o-y oil demand growth in both April and May in China. This was further supported by some improvements in oil requirements in the US and Latin America.

In the OECD region, oil demand in 2023 is anticipated to inch up by 62 tb/d to reach 46.01mb/d. OECD Americas demand is anticipated to have the largest regional rise in 2023, led by the US, on the back of recovering jet fuel demand and improvements in gasoline requirements. Light distillates are also projected to support demand growth this year in the sub-region.

In the non-OECD region, total oil demand is anticipated to rise by around 2.4 mb/d, to reach 55.99 mb/d in 2023, surpassing the pre-pandemic demand level of 2019 by almost 3.4 mb/d. A steady increase in transportation and industrial fuel demand, supported by a recovery in activity in China and other non-OECD regions, is projected to boost demand in 2023.

In 2024, solid global economic growth amid continued improvements in China is expected to boost consumption of oil. World oil demand is anticipated to rise by 2.2 mb/d y-o-y, with total world oil demand projected to average 104.25 mb/d.

In the OECD, oil demand is anticipated to rise by 0.26 mb/d. Oil demand in the US is forecast to reach the pre-pandemic level, mainly due to the recovery in jet fuel requirements and improvements in gasoline and light distillates demand. OECD Europe and the OECD Asia Pacific are anticipated to remain 0.79 mb/d and 0.46 mb/d below pre-pandemic levels, respectively, due to anticipated slower economic activity in the two regions and ongoing supply chain bottlenecks that will weigh on industrial activity, particulary in OECD Europe.

In the non-OECD, oil demand is forecast to show an increase of almost 2.0 mb/d y-o-y in 2024, with China and India having the largest growth by country, supported by a recovery in jet fuel and steady improvements in gasoline and firm industrial fuel demand, including petrochemical feedstock. Other regions particularly the Middle East and Other Asia are also expected to see considerable gains, supported by a positive economic outlook. In terms of fuels, jet kerosene, gasoline and diesel are assumed to lead oil demand growth next year.

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

							Change 2023/22	
World oil demand	**2022**	**1Q23**	**2Q23**	**3Q23**	**4Q23**	**2023**	**Growth**	**%**
Americas	25.01	24.58	25.14	25.51	25.09	25.08	0.07	0.28
of which US	*20.43*	*20.12*	*20.52*	*20.75*	*20.37*	*20.44*	*0.01*	*0.04*
Europe	13.50	13.06	13.34	14.07	13.37	13.46	-0.04	-0.31
Asia Pacific	7.43	7.86	7.05	7.27	7.69	7.47	0.03	0.44
Total OECD	**45.95**	**45.49**	**45.52**	**46.85**	**46.16**	**46.01**	**0.06**	**0.13**
China	14.85	15.63	15.96	15.38	16.11	15.77	0.92	6.19
India	5.14	5.40	5.41	5.21	5.50	5.38	0.24	4.75
Other Asia	9.02	9.40	9.65	9.14	9.24	9.35	0.33	3.67
Latin America	6.44	6.60	6.52	6.71	6.68	6.63	0.19	3.02
Middle East	8.29	8.63	8.47	8.86	8.73	8.67	0.38	4.55
Africa	4.40	4.69	4.32	4.43	4.88	4.58	0.18	4.09
Russia	3.56	3.68	3.45	3.59	3.87	3.65	0.09	2.49
Other Eurasia	1.15	1.24	1.16	1.02	1.22	1.16	0.01	1.16
Other Europe	0.77	0.84	0.76	0.75	0.83	0.80	0.03	3.61
Total Non-OECD	**53.62**	**56.12**	**55.70**	**55.11**	**57.05**	**55.99**	**2.38**	**4.43**
Total World	**99.56**	**101.61**	**101.22**	**101.95**	**103.21**	**102.00**	**2.44**	**2.45**
Previous Estimate	99.57	101.55	100.80	102.03	103.25	101.91	2.35	2.36
Revision	0.00	0.06	0.42	-0.08	-0.04	0.09	0.09	0.09

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

Source: OPEC.

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

World oil demand	2023	1Q24	2Q24	3Q24	4Q24	2024	Change 2024/23 Growth	Change 2024/23 %
Americas	25.08	24.76	25.31	25.71	25.25	25.26	0.18	0.72
of which US	*20.44*	*20.12*	*20.66*	*20.91*	*20.51*	*20.58*	*0.14*	*0.70*
Europe	13.46	13.11	13.40	14.14	13.41	13.52	0.06	0.41
Asia Pacific	7.47	7.89	7.07	7.30	7.70	7.49	0.02	0.29
Total OECD	**46.01**	**45.77**	**45.77**	**47.16**	**46.36**	**46.27**	**0.26**	**0.56**
China	15.77	16.20	16.42	16.00	16.78	16.35	0.58	3.68
India	5.38	5.63	5.65	5.44	5.69	5.60	0.22	4.09
Other Asia	9.35	9.66	9.90	9.50	9.60	9.66	0.31	3.31
Latin America	6.63	6.79	6.71	6.93	6.84	6.82	0.19	2.86
Middle East	8.67	8.91	8.91	9.41	8.97	9.05	0.38	4.38
Africa	4.58	4.80	4.51	4.60	5.01	4.73	0.15	3.27
Russia	3.65	3.75	3.56	3.75	3.94	3.75	0.10	2.75
Other Eurasia	1.16	1.27	1.20	1.08	1.28	1.21	0.04	3.81
Other Europe	0.80	0.86	0.77	0.77	0.84	0.81	0.01	1.73
Total Non-OECD	**55.99**	**57.87**	**57.62**	**57.48**	**58.96**	**57.98**	**1.99**	**3.55**
Total World	**102.00**	**103.64**	**103.39**	**104.63**	**105.31**	**104.25**	**2.25**	**2.20**

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

OECD

OECD Americas

Update on the latest developments

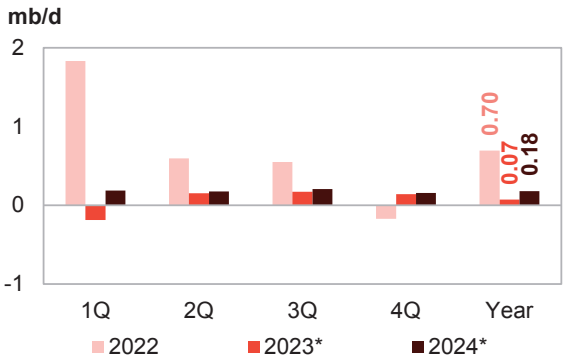
Oil demand in **OECD Americas** grew y-o-y by around 0.3 mb/d, y-o-y, in April, up from a y-o-y decline of about 0.1 mb/d in March. The US accounted for the entire increase in demand in April, as Canada and Mexico recorded annual declines.

Oil demand in the **US** saw y-o-y growth of around 0.5 mb/d in April, after four consecutive months of y-o-y declines. The demand increase was supported by transportation fuels and petrochemical feedstock.

The US services PMI stood at 51.9 in April, having been in the expansion zone for 13-months. However, the manufacturing PMI in April stood at 47.1 points, remaining below 50 for the seventh consecutive month.

At the same time, the seasonally adjusted vehicle miles travelled for April 2023 stood 0.1% above April 2022 and also showed a m-o-m increase of 0.1%.

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



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

Furthermore, the International Air Transport Association's (IATA) Air Passenger Market Analysis reported that domestic air travel in North American carriers grew by 3.0% in April above the levels seen in 2019. For international air travel, North American airlines witnessed substantial annual growth of 34.8% in international revenue passenger kilometres (RPKs), exceeding 2019 levels by 0.4%. The performance of the PMIs and mobility indicators reflect the diverging trends that show gasoline and jet fuel strongly growing y-o-y in April.

In terms of products, US April oil demand was led by gasoline, which recorded y-o-y growth of 0.2 mb/d for the second consecutive month, reflecting the beginning of the summer driving season. LPG also saw y-o-y growth of close to 0.2 mb/d, compared with almost zero growth seen in the previous month. On the back of sustained air travel activity, jet/kerosene posted y-o-y growth of 0.1 mb/d. Gas/diesel oil also increased by 0.1 mb/d, y-o-y, up from an annual decline of close to 0.1 mb/d, y-o-y in March. Residual fuels saw a y-o-y decline of around 0.1 mb/d, a slight improvement fromt the decline of 0.2 mb/d seen in March.

Furthermore, the ´other products´ categories saw a minor increase of 40 tb/d y-o-y, an improvement as compared with a y-o-y decline of 0.1 mb/d in March. Finally, naphtha demand inched up by 10 tb/d, y-o-y, in April, following a y-o-y decline of around the same rate in March.

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

By product	Apr 22	Apr 23	Change Growth	Apr 23/Apr 22 %
LPG	3.52	3.67	0.15	4.4
Naphtha	0.15	0.16	0.01	4.0
Gasoline	8.75	9.00	0.24	2.8
Jet/kerosene	1.54	1.63	0.09	5.6
Diesel	3.81	3.90	0.09	2.4
Fuel oil	0.30	0.18	-0.13	-42.1
Other products	2.18	2.21	0.04	1.7
Total	**20.25**	**20.74**	**0.49**	**2.4**

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

Near-term expectations

In **3Q23**, overall GDP growth in the US is expected to decline from what was seen in the first half of the year. At the same time, inflation is expected to continue to decline, which, combined with resilient services business activity, is expected to support driving mobility and air travel during the summer. OECD Americas is expected to see y-o-y growth by 0.17 mb/d in the quarter, with most of the growth anticipated to come from the US. Transportation fuels – gasoline and jet kerosene – are anticipated to drive the growth in the region. However, continued weakening manufacturing activity is likely to impact demand for industrial fuels. Accordingly, diesel and petrochemical feedstock are anticipated to remain relatively weak due to the anticipated lower manufacturing and petrochemical sector activity.

In **4Q23**, the momentum of driving mobility will have subsided and the continued weakening of manufacturing activity is expected to impact the demand for industrial fuels. Consequently, the region is projected to grow y-o-y by 0.14 mb/d in this quarter, with most of the growth to come from transportation fuels, particularly, jet/kerosene, and also gasoline, to some degree.

In **2024**, the US is anticipated to see lower GDP growth, as compared to 2023. Despite the expected slowdown low baseline of 1Q23 is causing the region to show growth of 0.2 mb/d y-o-y in 1Q24. The US is anticipated to drive the oil demand growth in the region throughout the year, with manufacturing activity forecast to improve again. In terms of products, jet kerosene and LPG are anticipated to be the main drivers of product demand, as travel and petrochemical activities continue to grow. However, the risks are skewed to the downside with a focus on the macroeconomic performance of the US economy. For the year, OECD Americas is forecast to see oil demand growth of 180 tb/d, and the US is projected to show growth of around 140 tb/d, y-o-y, in 2024.

OECD Europe

Update on the latest developments

Oil demand in OECD Europe declined by 0.1 mb/d y-o-y in April, showing an improvement from the 0.2 mb/d y-o-y drop seen in March. Diesel and naphtha are the only products that contracted in April.

The ongoing macroeconomic challenges in the region are yet to subside. Inflation in the Euro-zone rose to 7.0% in April, up from 6.9% in March. The manufacturing PMI remained in contractionary territory, standing at 45.8 in April, from 47.3 in March. Nevertheless, the PMI for services, the largest sector in the Euro-zone stood in expansion zone of 56.2 points in April, compared with 55 in March. Similarly, Industrial production (IP) in the zone recovered by 0.6% y-o-y in April from a negative y-o-y reading in March.

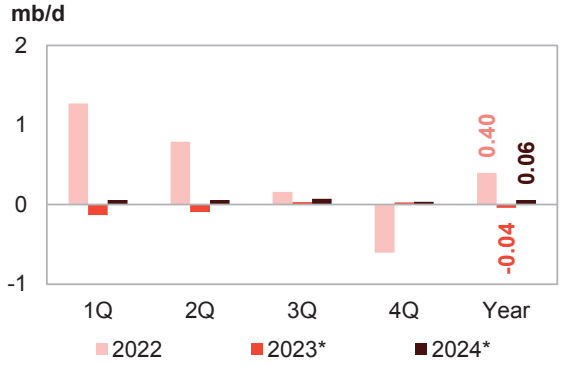
The IATA reported that the region's domestic airline RPKs stood above pre-pandemic levels for the 11th consecutive month, with growth of 6.8% compared to April 2019. Similarly, international RPKs in Europe grew by 22.6% in April, y-o-y.

Diesel demand in the region contracted further by 0.3 mb/d y-o-y, from the 0.2 mb/d level of decline seen in March. Likewise, naphtha also slowed by 60 tb/d, y-o-y, although this was a slight improvement from the 70 tb/d y-o-y decline seen in March.

On the positive side, continued improvements in airline activity supported jet/kerosene to grow by almost 0.2 mb/d, y-o-y, continuing the strong y-o-y growth rates driving overall oil demand in the region. Gasoline saw y-o-y growth of 50 tb/d, down slightly from 60 tb/d y-o-y growth in the previous month.

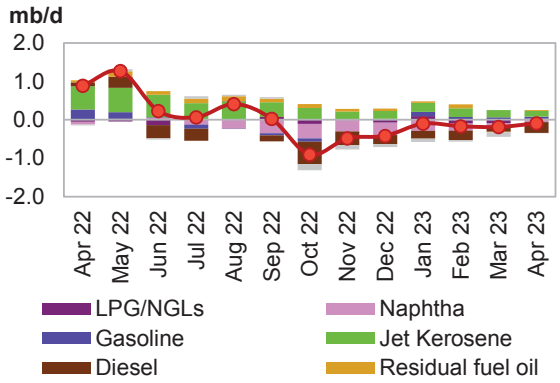
LPG also saw a y-o-y increase by 30 tb/d, up from an about 0.1 mb/d y-o-y decline in March. Finally, residual fuels improved by 20 tb/d, y-o-y and the "other products" category remained flat from showing a 120 tb/d y-o-y decline in the previous month.

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



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

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



Sources: IEA, JODI, OPEC and national sources.

Near-term expectations

In **3Q23**, GDP growth in the region is projected to be positive, albeit lower than what was seen in the previous quarter. Additionally, weakening manufacturing activity is also anticipated to continue due to slow economic activity and supply chain bottlenecks. Oil demand growth in the quarter is anticipated to improve very marginally, at just 30 tb/d, y-o-y growth. It is anticipated to be mainly supported by jet fuel and gasoline requirements. However, diesel and petrochemical feedstock are expected to remain weak.

In **4Q23**, there is little indication of an industrial sector recovery, due to supply chain bottlenecks. Although Euro-zone GDP is anticipated to modestly improve, as compared with the third quarter, nevertheless, the growth in the second half of the year is expected to be entirely driven by the service sector. In this quarter, oil demand is projected to inch up y-o-y by 26 tb/d; mostly driven by jet kerosene and gasoline.

In **2024**, the GDP growth in the region is anticipated to modestly improve, as compared with the growth rates in 2023. Consistent with the expected uptick in GDP growth and relatively healthy performance of the services business activity amid a recovery of the manufacturing sector, oil demand in 1Q24 in OECD Europe is forecast to grow by 57 tb/d, y-o-y. This growth is forecast to be mostly driven by jet fuel, supported by gasoline. However, risks are skewed to the downside, hinging on geopolitical developments and the possibility of an economic recession in the region. For the year, OECD Europe is forecast to show oil demand growth of 55 tb/d, y-o-y.

OECD Asia Pacific

Update on the latest developments

Oil demand in OECD Asia Pacific increased by nearly 0.3 mb/d y-o-y in April, broadly the same as in March. The bulk of oil demand in the region was seen in Japan and Australia. However, South Korea remained soft on the back of weak macroeconomic performance and continued low manufacturing activity.

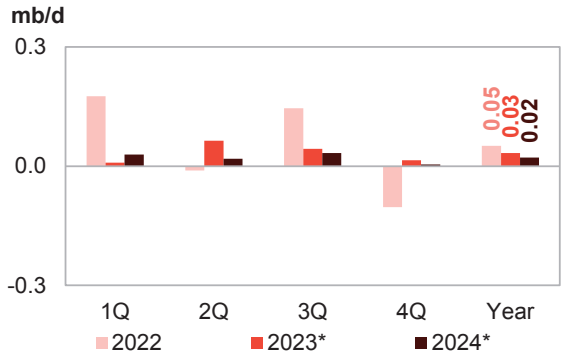
In Japan, the manufacturing PMI stood at 49.5 in April, slightly up from 49.2 points in March. Nevertheless, May figures show a further improvement, with the manufacturing PMI standing at 50.6. Similarly, the services sector PMI, which constitutes around two-thirds of the Japanese economy, rose to 55.4 in April after reaching 55 in March. The services PMI rose further to 55.9 points in May. However, the annual inflation rate in Japan unexpectedly rose to 3.5% in April from 3.2% seen in March.

Australian services PMI rose to 52.6 points in April, compared to 48.2 points in March. However, the manufacturing PMI is still in the contraction zone at 48 points in April. According to the latest data from the Australian Bureau of Statistics (ABS), the monthly Consumer Price Index (CPI) indicator rose 6.8 per cent in April 2023.

The South Korean manufacturing PMI in April was slightly below the 48.7 seen in the previous month. The consumer price index in South Korea increased 3.7% in April from a year ago, compared to a 3.3% rise in March.

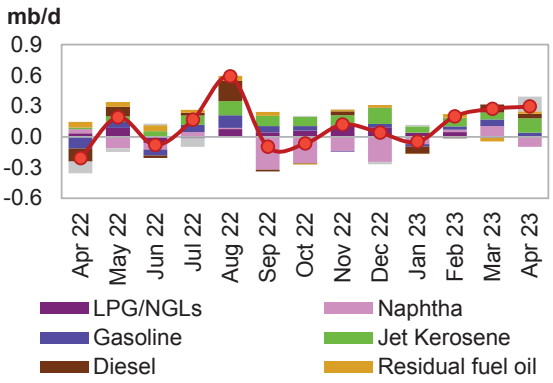
Airline activity in the OECD Asia Pacific region remains healthy, according to a report from IATA, suggesting that Asia Pacific carriers are making significant progress in reclaiming their dominant position in global domestic demand, as demonstrated by an impressive annual increase of 155.3% in domestic RPKs in April 2023. In addition, Asia Pacific airlines have experienced capacity growth outpacing the increase in demand, their available seat kilomenters (ASKs) exceeded the levels observed in April 2019 by 11.1%, highlighting the rapid restoration of capacity by the airlines in the region.

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



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

Graph 4 - 5: OECD Asia Pacific oil demand, y-o-y change



Sources: IEA, JODI, METI and OPEC.

Oil demand in April was driven by the ´other products´ category which posted y-o-y growth of nearly 145 tb/d, compared with zero growth recorded in March. On the back of a steady increase in airline activity in the region, jet/kerosene saw y-o-y growth of more than 140 tb/d, up from 70 tb/d, y-o-y growth seen in March. Diesel saw y-o-y growth of 50 tb/d, down from annual growth of 80 tb/d y-o-y in the previous month. Gasoline recorded y-o-y growth of 40 tb/d down from y-o-y growth of 60 tb/d in March. Finally, residual fuels increased by 20 tb/d y-o-y, compared to an annual decline of 40 tb/d in March.

However, petrochemical feedstock – both naphtha and LPG – showed y-o-y contractions in April, as average run rates at the major naphtha cracking centres had been declining due to the slowdown in the manufacturing and construction sectors that typically drive demand for various petrochemical products.

Near-term expectations

The region's GDP is projected to remain positive in 2023, with variations among countries. The services and business activity PMIs in Japan and Australia are in the expansion zone, reaching 56 points and 52.6 points, respectively, in June. Furthermore, petrochemical feedstock requirements are likely to get a boost from the opening of the Chinese economy, which will also support the petrochemical industry of the entire region.

In **3Q23**, relatively healthy economic activity in the region, combined with improvements in air traffic and driving mobility and in conjunction with a continued recovery in petrochemical industry operations are anticipated to support oil demand to grow by 44 tb/d y-o-y, mainly driven by jet fuel, and supported by gasoline and petrochemical feedstock.

However, by **4Q23**, the oil demand growth momentum is anticipated to lessen and the region is expected to see y-o-y growth of 15 tb/d.

In **2024**, the growth rate of the region's GDP is anticipated to remain broadly at 2023 levels. Oil demand in 1Q24 is projected to grow by 30 tb/d, y-o-y, almost twice the expected growth rate in 4Q23. For the year, OECD Asia Pacific oil demand is forecast to grow by 22 tb/d, y-o-y.

Non-OECD

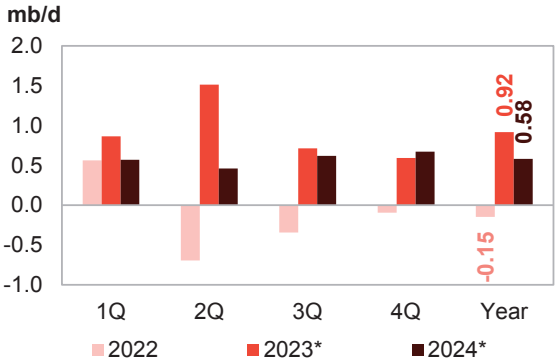
China

Update on the latest developments

Oil demand in China is estimated to have grown by 2.1 mb/d in May y-o-y, from the 3.1 mb/d y-o-y growth seen last month. Growth in oil demand was supported by a low baseline and healthy economic activity, amid strong petrochemical feedstock requirements.

In May, the services PMI remained in the expansion zone at 56.4, reflecting strong momentum in services and business activity. Similarly, the manufacturing PMI has just moved back into expansionary territory in May to stand at 50.9, after it had fallen into contractionary territory in April. Furthermore, the China National Bureau of Statistics shows that in May, the value added of the manufacturing industry increased by 4.1% y-o-y; in particular, the manufacture of automobiles increased by 23.8% y-o-y.

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



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

Road travel increased by 22% in May. Similarly, air travel activity remained healthy. A report from China's Civil Aviation Industry in May indicates that domestic passenger volume in China increased y-o-y by 315% and international passenger volume soared by 1,868%.

Moreover, IATA reports that domestic air travel ticket sales increased significantly in April, driven by pent-up demand and domestic tourism in China. By the end of April, domestic bookings reached their peak, surpassing the 2019 sales levels by 11%.

On the back of steady air travel recovery, jet/kerosene led oil demand in May with over 0.5 mb/d, y-o-y growth. Steady mobility activity during May supported gasoline to grow by nearly 0.4 mb/d, y-o-y. Furthermore, diesel increased by almost 0.3 mb/d, y-o-y. It should be noted that diesel is consumed in industry as well as in freight, fuelling trucks and commercial vehicles in construction and agricultural sector activity. Steady petrochemical sector requirements supported LPG to grow y-o-y by more than 0.3 mb/d. Furthermore, naphtha saw y-o-y growth of almost 0.2 mb/d, the same as the growth in April. Finally, residual fuels saw y-o-y growth of 0.3 mb/d, while the "other fuels" category increased by 0.1 mb/d, broadly the same as seen the previous month of April.

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

By product	May 22	May 23	Change Growth	May 23/May 22 %
LPG	2.46	2.77	0.32	13.0
Naphtha	1.42	1.59	0.17	12.0
Gasoline	3.28	3.65	0.37	11.2
Jet/kerosene	0.54	1.08	0.54	100.6
Diesel	3.45	3.73	0.28	8.0
Fuel oil	0.64	0.96	0.32	50.8
Other products	3.30	3.39	0.09	2.7
Total	**15.07**	**17.16**	**2.08**	**13.8**

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

Near-term expectations

China's GDP growth is anticipated to remain firm at 5.2% throughout **2023**. Similarly, the road transportation index and domestic available seat kilometres (ASK) in China were already 13.6% above their 2019 levels in March 2023, while domestic revenue passenger kilometres (RPKs) in April were only 3.3% below the same month in 2019, and international flights are approaching 50% of 2019 in April.

Petrochemical feedstock demand is healthy,with more petrochemical plants expected to come on stream including the Yantai, and Shandong Petrochemical plants. These factors are anticipated to support oil demand to grow by 0.7 mb/d, y-o-y in 3Q23 and 0.6 mb/d, y-o-y in 4Q23, respectively.

In **2024**, China's GDP growth is forecast at 4.8%, a slight deceleration from 2023, but still posing a considerable contribution to overall global GDP growth. Furthermore, a significant rise in the services sector activity, including leisure, travel and tourism, and hospitality as well as the continued recovery of manufacturing activity and the petrochemical sectors' requirements are expected to support oil demand. In line with this projected positive dynamic, oil demand is forecast to grow by nearly, 0.6 mb/d in 1Q24. Jet fuel will again drive oil demand growth in this quarter, with millions of air passengers expected to support air travel activity for local and business travellers from and into China. Light distillates are also expected to continue rising, with the ongoing expansion of petrochemical industries. Increased mobility and rising construction activity will boost demand for gasoline and diesel. For the year, China's oil demand is forecast to grow by 0.6 mb/d y-o-y.

India

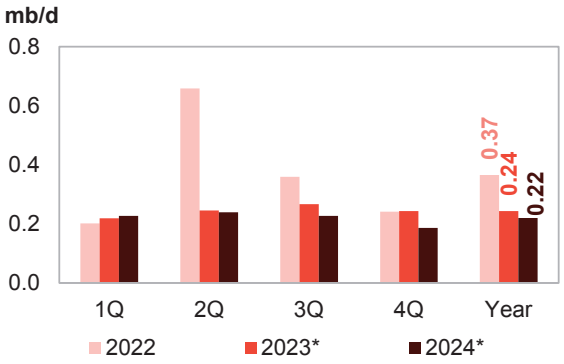
Update on the latest developments

Oil demand in India soared by nearly 0.5 mb/d, y-o-y, equivalent to 9.5%, in May, following an annual decline of 10 tb/d in April.

Both the manufacturing and services sectors in India have been in expansion territory to support oil demand for over one year. The S&P Global services PMI indicated ongoing strong momentum standing at 61.2 in May, after reaching 62 in April. Similarly, the manufacturing PMI reached a strong 58.7 in May, compared with 57.2 in April.

According to the Indian automotive content creator, autopunditz.com, India's car sales in May 2023 saw positive growth across most of the top-selling automakers, with sales increasing by over 13% when compared to May last year. Similarly, a report from business-standard.com shows that India's domestic air passenger traffic was strong in May, up 2.3% from April, 15% higher than a year earlier ,and 8% higher than pre-COVID levels.

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



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

On the back of healthy manufacturing, mining and agricultural activity, diesel saw y-o-y growth of 0.2 mb/d for the second consecutive month. Gasoline and naphtha improved y-o-y by 0.1 mb/d, each in May as compared with 20 tb/d and 30 tb/d, y-o-y growth, respectively, in April. Increasing household requirements supported LPG to see y-o-y growth of 70 tb/d, up from zero y-o-y growth seen in April. Furthermore, jet/kerosene and residual fuel saw slight y-o-y growth of 10 tb/d each, down from an annual increase of 20 tb/d, each. However, the ´other products´ category softened by 10 tb/d, y-o-y, albeit showing an improvement from a 0.3 mb/d, y-o-y, decline in April.

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

By product	May 22	May 23	Change Growth	May 23/May 22 %
LPG	0.84	0.91	0.07	8.5
Naphtha	0.26	0.34	0.09	33.8
Gasoline	0.85	0.94	0.09	10.7
Jet/kerosene	0.19	0.20	0.01	6.4
Diesel	1.77	1.99	0.22	12.4
Fuel oil	0.16	0.16	0.01	3.5
Other products	0.97	0.96	-0.01	-1.0
Total	**5.03**	**5.51**	**0.48**	**9.5**

Note: Totals may not add up due to independent rounding.
Sources: JODI, Petroleum Planning and Analysis Cell of India and OPEC.

Near-term expectations

Looking forward, with steady and healthy economic activity and ongoing air travel recovery so far, India's demand for oil products is anticipated to remain strong for the rest of 2023.

In **3Q23**, oil demand is projected to rise by nearly 0.3 mb/d y-o-y. The government's proposed increase in capital spending is expected to boost the momentum of economic activity as construction and manufacturing activity accelerates. These factors, combined with a steady rise in airline activity, will support healthy oil demand growth. However, oil demand is anticipated to be affected by the impact of the monsoon season from July to September.

In **4Q23**, oil demand growth is expected to decelerate to slightly above 0.2 mb/d, with transportation fuels, notably gasoline, transportation diesel and jet/kerosene, expected to drive oil demand growth.

In **2024**, India is projected to record even better GPD growth than in 2023. Further, the ongoing steady services business activity, including air travel recovery and mobility as well as manufacturing and agricultural activity are expected to support oil demand in 1Q24 to grow by over 0.2 mb/d y-o-y in this quarter, diesel is anticipated to be the major driver of the demand growth, supported by transportation fuels; jet /kerosene and gasoline. For the year, India's oil demand is forecast at 0.2 mb/d y-o-y.

Latin America

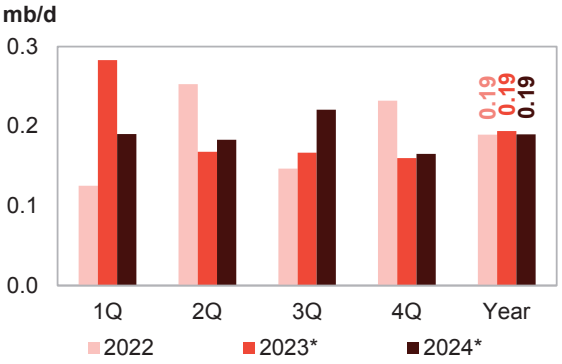
Update on the latest developments

Oil demand in Latin America increased y-o-y by 0.2 mb/d in April, down from 0.4 mb/d y-o-y growth seen in March. Brazil and Venezuela were the main drivers of oil demand in the region, while Argentina unexpectedly recorded a very minor y-o-y decline, from healthy annual growth in the previous month.

The annual inflation rate in Brazil fell slightly to 4.18% in April from 4.2% the previous month, the lowest since October 2020 and slightly above market forecasts of 4.1%. The services PMI in Brazil rose from 51.7 points in March to 54.5 points in April. However, the manufacturing PMI index in April contracted further to 44.3 from 46.9 points in March.

Latin American airline carriers continued to outperform their pre-pandemic levels in terms of domestic RPKs.

Graph 4 - 8: Latin America's oil demand, y-o-y change



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

In April, airline carriers in Latin America saw growth of 7.5% y-o-y. Similarly, international RPKs grew by 25.8% y-o-y. For the fourth consecutive month, gasoline was the main driver of oil demand in the region, growing by around 0.1 mb/d y-o-y, supported by a recovery in mobility. Residual fuels also saw more than 0.1 mb/d y-o-y growth in April, broadly the same as what was seen in the previous month. Finally, jet/kerosene saw y-o-y growth of 40 tb/d, up slightly from the 30 tb/d seen in March. In terms of petrochemical feedstock, LPG saw a y-o-y decline of 10 tb/d and demand for naphtha remained broadly flat y-o-y in April.

Near-term expectations

In **3Q23** and **4Q23**, GDP growth for the region is anticipated to remain positive. The services PMI in Brazil, one of the major oil-consuming countries in the region, has been steadily in expansion zone for more than one year. These factors are anticipated to support the demand for transportation fuels. Accordingly, jet fuel and gasoline are forecast to be the main drivers for oil demand growth in the quarters. Additionally, expected manufacturing activity improvements and petrochemical feedstock requirements should support demand for distillates. Oil demand is projected to grow y-o-y by nearly 0.2 mb/d, in both 3Q23 and 4Q23.

In **2024**, the GDP of the region is projected to remain at the previous year's growth rate. Furthermore, services business activity is expected to continue improving. Mobility and air travel improvements are expected to support transportation fuel demand to continue with greater momentum to show y-o-y growth of almost 0.2 mb/d y-o-y in 1Q24. The outlook for oil demand growth sees transportation fuels grow the most, followed by diesel and petrochemical feedstock. For the year, Latin America's oil demand is forecast to grow by 0.2 mb/d y-o-y.

Middle East

Update on the latest developments

The **Middle East** saw oil demand growth of 0.2 mb/d y-o-y in April. Demand growth was mostly led by requirements for electricity generation in Iraq.

The composite purchasing managers' indices (PMIs) for April reported by Haver Analytics, reflect continuing acceleration in the two major economies of the region, suggesting ongoing strong economic activity. Saudi Arabia's composite PMI rose to 59.9 points in April, from 58 points in March and the UAE posted a strong composite PMI of 55.7 points in April.

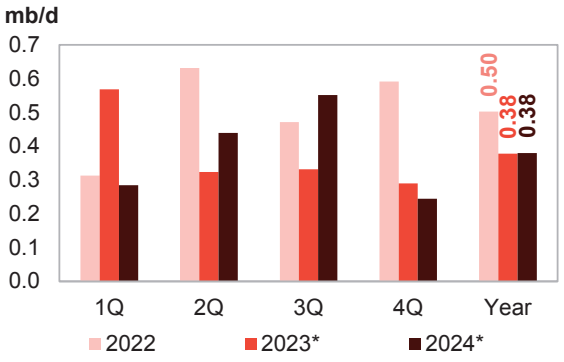
Similarly, IATA reported that Middle Eastern airline carriers have made remarkable progress in recovering international RPKs, achieving growth rates of 38.0% y-o-y in April.

With regard to oil products in the region in April, residual fuels are the main driver of oil demand in April, growing y-o-y by nearly 0.1 mb/d, slightly up from the previous month.

Gasoline saw y-o-y growth of 40 tb/d and the ´other products´ category saw y-o-y growth of 30 tb/d. Jet/kerosene demand grew by 20 tb/d, y-o-y. Furthermore, petrochemical feedstock, LPG and naphtha, saw slight y-o-y growth of 14 tb/d and 5 tb/d, y-o-y, respectively.

Finally, gas/diesel oil showed a minor decline of 10 tb/d y-o-y in April, a considerable drop from the 0.1 mb/d y-o-y growth recorded in the previous month.

Graph 4 - 9: Middle East's oil demand, y-o-y change



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

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

By product	May 22	May 23	Change Growth	May 23/May 22 %
LPG	0.06	0.06	0.01	9.2
Naphtha	0.00	0.00	0.00	117.9
Gasoline	0.18	0.19	0.01	3.7
Jet/kerosene	0.01	0.01	0.00	-26.0
Diesel	0.15	0.15	0.00	0.8
Fuel oil	0.18	0.24	0.07	37.0
Other products	0.16	0.23	0.07	47.1
Total	**0.74**	**0.89**	**0.15**	**20.6**

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

Near-term expectations

Ongoing steady economic activity combined with strong composite PMIs in the major consuming countries in the region amid a strong rebound in airline activity, are expected to support oil demand in the region to grow by nearly 0.3 mb/d, y-o-y in **3Q23** and **4Q23**. Moreover, demand growth in the region is expected to be supported by fuel oil for electricity generation in Iraq and Saudi Arabia, particularly in the hot summer months, combined with an increase in activity during the Hajj pilgrimage in June and July.

In **2024**, the GDP of the region is projected to remain strong, broadly in line with the 2023 rates of growth for all the major consuming countries of the region. The momentum of oil demand growth in 4Q23 is anticipated to spill into the first quarter of next year. Accordingly, in 1Q24, the region is anticipated to see y-o-y growth by about 0.3 mb/d. Transportation fuels – gasoline, transportation diesel and jet kerosene – are expected to be the main drivers of oil demand. Similarly, the´other products ´category for electricity generation is also anticipated to play a significant role in demand growth. The bulk of the demand growth is expected from Iraq and Saudi Arabia. For the year, oil demand in the Middle East is forecast to grow by 0.4 mb/d, y-o-y.

World Oil Supply

Non-OPEC liquids production in 2023 is expected to grow y-o-y by 1.4 mb/d to an average of 67.1 mb/d. This is broadly unchanged from last month. Slight downward revisions to OECD Europe, OECD Asia Pacific and Other Asia were largely offset by upward revisions to liquids production in OECD Americas.

US crude oil and condensate production in April 2023 was just 100 tb/d less than March levels, but still very robust. It was 8% more than the same month a year earlier. At the same time, NGLs production in April was up y-o-y by 8%, representing the highest level on record. However, the overall oil rig count has now dropped for several consecutive weeks, leading to a possible lower growth expectation for 2H23. Nonetheless, gradual and steady growth is currently expected for US shale oil production throughout the year. Accordingly, US liquids supply growth for 2023 is forecast at 1.1 mb/d. In the North Sea region, output growth has been revised down slightly following the continued underperformance of the UK. The main growth drivers for 2023 are anticipated to be the US, Brazil, Norway, Canada, Kazakhstan and Guyana, whereas oil production is forecast to decline primarily in Russia. Nevertheless, there remain uncertainties related to US shale oil output potential and unplanned maintenance across the rest of the year.

Non-OPEC liquids production in 2024 is forecast to grow by 1.4 mb/d to average 68.5 mb/d (including 50 tb/d in processing gains). OECD liquids supply is forecast to increase next year by 0.9 mb/d, and the non-OECD region is projected to grow by 0.4 mb/d. The main drivers for liquids supply growth are expected to be the US, Canada, Guyana, Brazil, Norway and Kazakhstan, with the majority of the increase expected to come from current project ramp-ups. At the same time, production is forecast to see the largest declines in Mexico and Azerbaijan.

OPEC NGLs and non-conventional liquids production in 2023 is forecast to grow by around 50 tb/d to an average of 5.4 mb/d. For 2024, it is forecast to grow by 65 tb/d to an average of 5.5 mb/d. OPEC-13 crude oil production in June increased by 91 tb/d m-o-m to average 28.19 mb/d, according to available secondary sources.

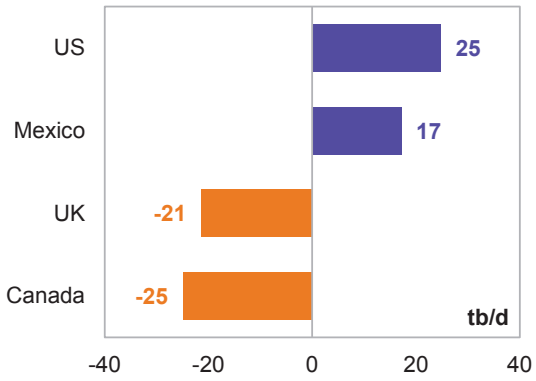
Non-OPEC liquids production in June, including OPEC NGLs, is estimated to have risen m-o-m by 0.5 mb/d to an average of 73.0 mb/d. This is up by 2.7 mb/d y-o-y. As a result, preliminary data indicates that June's global oil supply increased by 0.6 mb/d m-o-m to average 101.2 mb/d, up by 2.2 mb/d y-o-y.

Non-OPEC liquids production in 2023 is forecast to expand by 1.4 mb/d. This is down slightly by 20 tb/d from the previous month's growth assessment, mainly due to some downward revisions in OECD Europe.

Overall **OECD supply growth** expectations for 2023 revised down slightly. While OECD Europe and OECD Asia Pacific saw downward revisions, OECD Americas was revised up due to the US and Mexico.

Non-OECD supply growth projections for 2023 have been broadly unchanged. It is now expected to drop y-o-y by 0.1 mb/d.

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

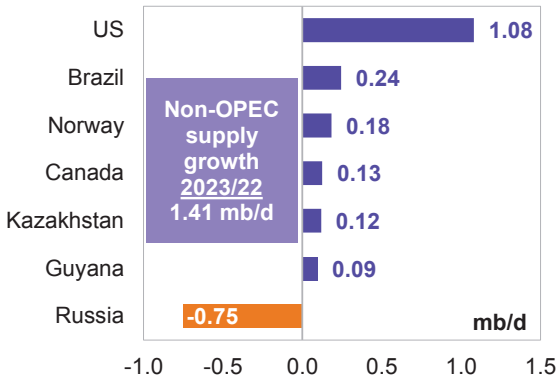


*Note: * 2023 = Forecast. Source: OPEC.*

Key drivers of growth and decline

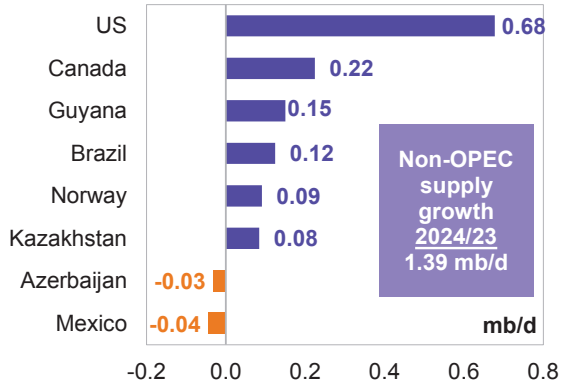
The **key drivers of non-OPEC liquids supply growth in 2023** are projected to be the US, Brazil, Norway, Canada, Kazakhstan and Guyana, while oil production is projected to see the largest decline in Russia.

Graph 5 - 2: Annual liquids production changes y-o-y for selected countries in 2023*



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

Graph 5 - 3: 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 Azerbaijan.

Non-OPEC liquids production in 2023 and 2024

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

Non-OPEC liquids production	2022	1Q23	2Q23	3Q23	4Q23	2023	Change 2023/22 Growth	Change 2023/22 %
Americas	26.84	27.88	27.95	28.22	28.42	28.12	1.28	4.77
of which US	*19.21*	*20.08*	*20.29*	*20.34*	*20.45*	*20.29*	*1.08*	*5.63*
Europe	3.57	3.66	3.63	3.80	3.94	3.76	0.18	5.17
Asia Pacific	0.48	0.45	0.45	0.48	0.47	0.46	-0.01	-2.83
Total OECD	**30.89**	**32.00**	**32.03**	**32.50**	**32.84**	**32.34**	**1.45**	**4.69**
China	4.48	4.63	4.63	4.50	4.50	4.56	0.09	1.91
India	0.77	0.76	0.77	0.78	0.78	0.78	0.00	0.32
Other Asia	2.30	2.31	2.31	2.33	2.36	2.33	0.03	1.20
Latin America	6.34	6.69	6.71	6.70	6.79	6.72	0.38	6.06
Middle East	3.29	3.27	3.29	3.29	3.30	3.29	0.00	0.02
Africa	1.29	1.25	1.28	1.32	1.31	1.29	0.00	0.00
Russia	11.03	11.20	10.83	9.55	9.57	10.28	-0.75	-6.82
Other Eurasia	2.83	3.00	2.96	2.95	2.98	2.97	0.14	4.99
Other Europe	0.11	0.11	0.11	0.11	0.10	0.11	0.00	-0.85
Total Non-OECD	**32.44**	**33.23**	**32.89**	**31.54**	**31.69**	**32.33**	**-0.11**	**-0.34**
Total Non-OPEC production	63.34	65.23	64.92	64.04	64.53	64.68	1.34	2.11
Processing gains	2.40	2.47	2.47	2.47	2.47	2.47	0.07	2.96
Total Non-OPEC liquids production	**65.73**	**67.69**	**67.39**	**66.51**	**67.00**	**67.14**	**1.41**	**2.15**
Previous estimate	65.74	67.75	66.99	66.73	67.24	67.17	1.43	2.18
Revision	-0.01	-0.05	0.39	-0.22	-0.24	-0.03	-0.02	-0.03

*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	28.12	28.64	28.67	29.14	29.45	28.98	0.86	3.05
of which US	*20.29*	*20.62*	*20.85*	*21.11*	*21.28*	*20.97*	*0.68*	*3.34*
Europe	3.76	3.94	3.79	3.79	3.90	3.85	0.10	2.54
Asia Pacific	0.46	0.47	0.44	0.45	0.44	0.45	-0.01	-2.87
Total OECD	**32.34**	**33.05**	**32.90**	**33.39**	**33.79**	**33.28**	**0.94**	**2.90**
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	2.33	2.31	2.28	2.26	2.26	2.28	-0.05	-2.33
Latin America	6.72	6.89	6.96	7.09	7.17	7.03	0.31	4.55
Middle East	3.29	3.34	3.33	3.32	3.32	3.32	0.04	1.14
Africa	1.29	1.31	1.34	1.37	1.38	1.35	0.05	4.06
Russia	10.28	10.10	10.22	10.35	10.46	10.28	0.00	-0.01
Other Eurasia	2.97	3.03	3.02	3.00	3.04	3.02	0.05	1.79
Other Europe	0.11	0.10	0.10	0.10	0.10	0.10	0.00	-1.13
Total Non-OECD	**32.33**	**32.44**	**32.61**	**32.82**	**33.05**	**32.73**	**0.40**	**1.24**
Total Non-OPEC production	64.68	65.50	65.52	66.20	66.83	66.01	1.34	2.07
Processing gains	2.47	2.52	2.52	2.52	2.52	2.52	0.05	2.03
Total Non-OPEC liquids production	**67.14**	**68.01**	**68.03**	**68.72**	**69.35**	**68.53**	**1.39**	**2.07**

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

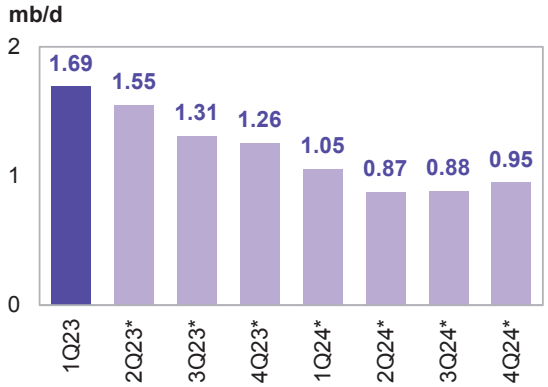
Source: OPEC.

OECD

OECD liquids production in 2023 is forecast to expand by 1.5 mb/d to an average of 32.3 mb/d. This is revised lower by a 12 tb/d, mainly due to downward revisions in OECD Europe and OECD Asia Pacific.

Growth is set to be led by OECD Americas, which is forecast to expand by 1.3 mb/d to an average of 28.1 mb/d. This is an upward revision of 15 tb/d compared with last month's assessment, due to higher expected growth in the US and Mexico. Yearly liquids production in OECD Europe is anticipated to grow by 0.2 mb/d to an average of 3.8 mb/d. This is down by 17 tb/d compared with the previous month. OECD Asia Pacific is expected to drop by around 10 tb/d to an average of 0.5 mb/d.

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



*Note: * 2Q23-4Q24 = Forecast. Source: OPEC.*

For **2024**, oil production in the OECD is likely to grow by 0.9 mb/d to an average of 33.3 mb/d. Again, the growth will be led by OECD Americas, with an expected increase of 0.9 mb/d to an average of 29.0 mb/d. Yearly oil production in OECD Europe is anticipated to grow by 0.1 mb/d to an average of 3.9 mb/d, while OECD Asia Pacific is expected to decline by 13 tb/d y-o-y to an average of 0.5 mb/d.

OECD Americas

US

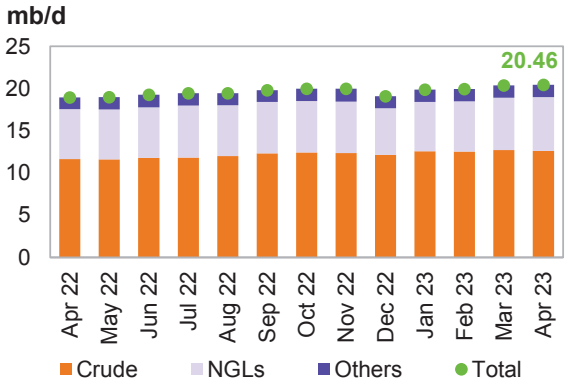
US liquids production in **April** rose m-o-m by 63 tb/d to an average of 20.5 mb/d, the highest level on record. This was up by 1.5 mb/d compared with April 2022.

Crude oil and condensate production dropped m-o-m by 102 tb/d in **April 2023** to average 12.6 mb/d. This was up y-o-y by 0.9 mb/d.

In terms of the **crude and condensate production breakdown by region (PADDs)**, production decreased mainly in the US Gulf Coast (USGC) region, which dropped by 134 tb/d to an average of 9.1 mb/d. Production in the Midwest and Rocky Mountain regions, rose by around 15 tb/d each, to 1.7 mb/d and 0.9 mb/d, respectively. Output in the East Coast and West Coast remained broadly unchanged m-o-m.

Onshore production growth in the main regions was primarily driven by a strong recovery in New Mexico and Colorado fields, while offshore output in the Gulf of Mexico (GoM) declined.

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



Sources: EIA and OPEC.

NGLs production was up m-o-m by 162 tb/d to an average of 6.4 mb/d in April. This was higher y-o-y by 0.5 mb/d. According to the US Department of Energy (DoE), production of **non-conventional liquids** (mainly ethanol) remained chiefly unchanged at an average of 1.5 mb/d. Preliminary estimates see non-conventional liquids averaging around 1.5 mb/d in May, largely unchanged from April.

GoM production fell m-o-m by 138 tb/d to an average of 1.7 mb/d in April. Normal production was seen in most Gulf Coast offshore platforms with the exceptions being Shell's Mars and BP's Thunder Horse platforms due to planned maintenance. In the **onshore Lower 48**, crude and condensate production increased m-o-m by 37 tb/d to an average of 10.4 mb/d in April.

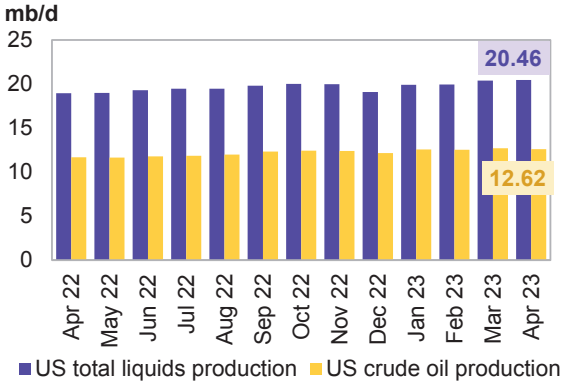
Table 5 - 3: US crude oil production by selected state and region, tb/d

State	Apr 22	Mar 23	Apr 23	Change m-o-m	Change y-o-y
Texas	5,016	5,412	5,398	*-14*	*382*
New Mexico	1,514	1,838	1,857	*19*	*343*
Gulf of Mexico (GOM)	1,765	1,872	1,734	*-138*	*-31*
North Dakota	899	1,092	1,102	*10*	*203*
Colorado	440	433	450	*17*	*10*
Oklahoma	417	433	440	*7*	*23*
Alaska	442	435	434	*-1*	*-8*
Total	**11,668**	**12,717**	**12,615**	***-102***	***947***

Sources: EIA and OPEC.

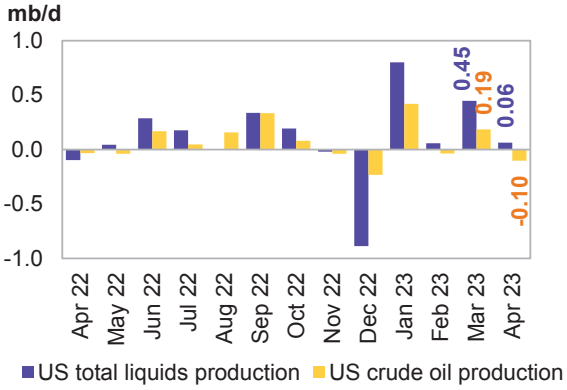
Looking at **individual states**, New Mexico's oil production rose by 19 tb/d to an average of 1.9 mb/d, which is 343 tb/d higher than a year ago. Production from Texas was down by 14 tb/d to an average of 5.4 mb/d, which is 382 tb/d higher than a year ago. In the Midwest, North Dakota's production rose m-o-m by 10 tb/d to an average of 1.1 mb/d, up y-o-y by 203 tb/d. Oklahoma's production was up m-o-m by 7 tb/d to an average of 0.4 mb/d. Production in Alaska remained largely unchanged, while output in Colorado rose m-o-m by 17 tb/d.

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



Sources: EIA and OPEC.

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



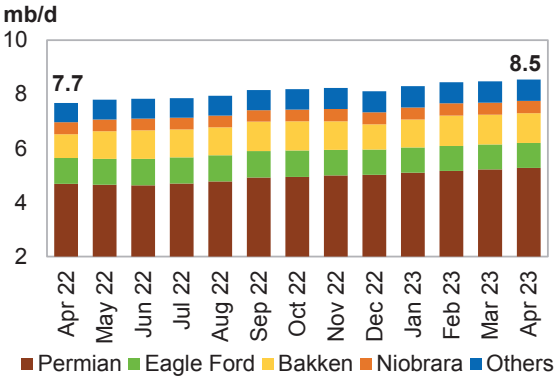
Sources: EIA and OPEC.

US tight crude output in **April** is estimated to have risen m-o-m by 67 tb/d to an average of 8.5 mb/d, according to the latest estimate from the US Energy Information Administration (EIA). This was 0.9 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 53 tb/d to an average of 5.3 mb/d. This was up y-o-y by 594 tb/d.

In North Dakota, Bakken shale oil output rose m-o-m by a minor 8 tb/d to an average of 1.1 mb/d, up by 225 tb/d y-o-y. Tight crude output at Eagle Ford in Texas dropped by a minor 4 tb/d to an average of 0.9 mb/d, which is down y-o-y by 43 tb/d. Production in Niobrara-Codell in Colorado and Wyoming was up by 10 tb/d to an average of 0.5 mb/d.

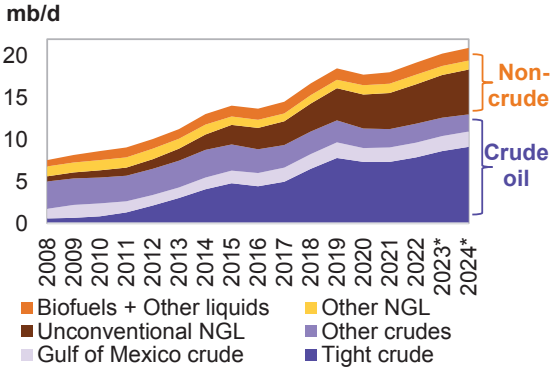
Graph 5 - 8: US tight crude output breakdown



Sources: EIA and OPEC.

US liquids production in 2023, excluding processing gains, is forecast to expand y-o-y by 1.1 mb/d to an average of 20.3 mb/d. This is up by 25 tb/d compared with the previous assessment. Higher-than-expected output in April was partially compensated by a lower forecast for the rest of the year. Better drilling activity and fewer supply chain/logistical issues in the prolific Permian, Eagle Ford and Bakken shale sites are still assumed 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 0.7 mb/d to average 12.6 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, NGLs production and non-conventional liquids, particularly ethanol, are forecast to increase y-o-y by 0.3 mb/d and 40 tb/d, to average 6.2 mb/d and 1.5 mb/d, respectively.

Graph 5 - 9: 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 0.7 mb/d to average 21.0 mb/d, assuming a modest level of drilling activities and less supply chain issues in 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 an average of 13.0 mb/d. At the same time, NGLs production and non-conventional liquids, particularly ethanol, are projected to increase by 0.2 mb/d and 30 tb/d y-o-y to average 6.4 mb/d and 1.5 mb/d, respectively. Average tight crude output in 2024 is expected at 9.1 mb/d, up by 0.5 mb/d.

The 2024 forecast assumes ongoing capital discipline, 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	7.89	0.55	8.62	0.73	9.12	0.50
Gulf of Mexico crude	1.74	0.04	1.83	0.09	1.85	0.02
Conventional crude oil	2.25	0.05	2.16	-0.09	2.06	-0.10
Total crude	**11.89**	**0.63**	**12.61**	**0.72**	**13.03**	**0.43**
Unconventional NGLs	4.74	0.43	5.11	0.37	5.36	0.25
Conventional NGLs	1.14	0.02	1.09	-0.05	1.06	-0.03
Total NGLs	**5.88**	**0.46**	**6.20**	**0.31**	**6.42**	**0.22**
Biofuels + Other liquids	1.44	0.08	1.48	0.04	1.52	0.03
US total supply	**19.21**	**1.17**	**20.29**	**1.08**	**20.97**	**0.68**

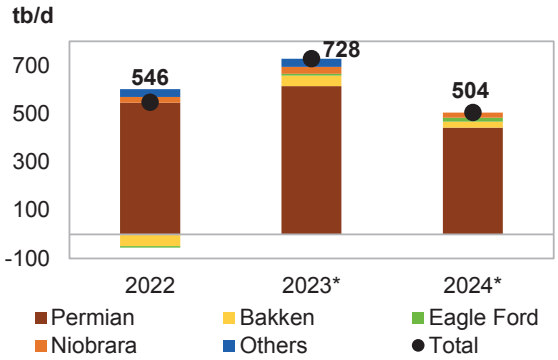
*Note: * 2023 and 2024 = Forecast.*

Sources: EIA, OPEC and Rystad Energy.

US tight crude production in the **Permian** in 2023 is expected to increase y-o-y by 0.6 mb/d to 5.3 mb/d. It is forecast to grow y-o-y by 0.4 mb/d to an average of 5.8 mb/d in 2024.

The **Bakken** shale production decline that occurred in 2020 and 2021 continued in 2022. In addition to several weather-related outages, drilling activity in **North Dakota** is still expected to be lower than levels required to substantially recover output. In 2023, however, growth is forecast to resume, albeit at just 45 tb/d to an average of 1.1 mb/d. Growth of 25 tb/d for 2024 is anticipated, to average 1.1 mb/d. However, this is still well below the pre-pandemic average of 1.4 mb/d.

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



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

The **Eagle Ford** in Texas saw an output of 1.2 mb/d in 2019, followed by declines in the period 2020 to 2022. Growth is now forecast for 2023, but at just around 6 tb/d to average 0.96 mb/d. Similar marginal growth is expected for 2024, with an increase of 16 tb/d to average 0.98 mb/d.

Niobrara's production is expected to have grown y-o-y by 29 tb/d in 2023 to an average of 466 tb/d. It is then forecast to increase by 21 tb/d in 2024 to an average of 486 tb/d. Given the slower pace of drilling and completion activities, production in other shale plays is expected to show a marginal increase of 30 tb/d in 2023 and 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	4.74	0.55	5.35	0.61	5.79	0.44
Bakken shale	1.03	-0.05	1.07	0.04	1.10	0.02
Eagle Ford shale	0.95	-0.01	0.96	0.01	0.98	0.02
Niobrara shale	0.44	0.02	0.47	0.03	0.49	0.02
Other tight plays	0.73	0.03	0.77	0.03	0.77	0.00
Total	**7.89**	**0.55**	**8.62**	**0.73**	**9.12**	**0.50**

*Note: * 2023 and 2024 = Forecast.*

Source: OPEC.

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

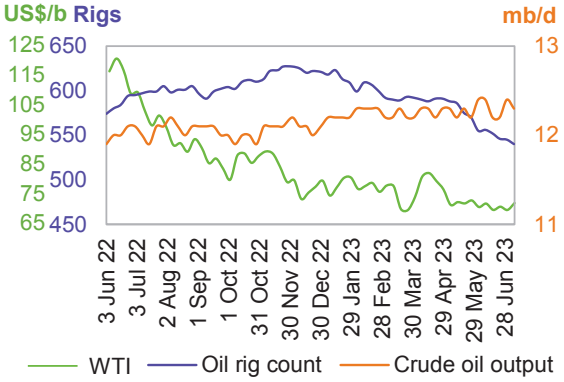
Total **active US drilling rigs** in the week ending 30 June 2023 fell by 8 to 674, according to Baker Hughes. This was down by 76 rigs compared with a year ago. The number of active offshore rigs remained steady w-o-w at 19. This was higher by two compared with the same month a year earlier. Onshore oil and gas rigs were lower w-o-w by 8 to stand at 653 rigs, with two rigs in inland waters. This is down by 77 rigs y-o-y.

The **US horizontal rig count** fell w-o-w by 7 to 606, compared with 682 horizontal rigs a year ago. The number of drilling rigs for oil dropped w-o-w by one to 545. At the same time, gas-drilling rigs fell w-o-w by six to 124.

The Permian's rig count remained steady w-o-w at 341. Rig counts dropped by one in Williston to 34, but rose by one in Eagle Ford to 61. The rig counts remained unchanged w-o-w in Cana Woodford and DJ-Niobrara at 23 and 14, respectively.

One operating oil rig remained in the Barnett basin, unchanged w-o-w, but this was down by one compared with May.

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



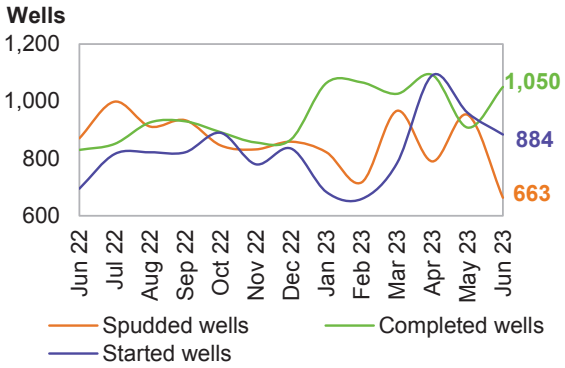
Sources: Baker Hughes, EIA and OPEC.

Drilling and completion (D&C) activities for spudded, completed and started oil-producing wells in all US shale plays, based on EIA-DPR regions, includes 953 horizontal wells spudded in May (as per preliminary data). This is up m-o-m by 163, and 3% higher than in May 2022.

Preliminary data for May indicates a higher number of completed wells at 908, which is up y-o-y by 9%. The number of started wells is estimated at 960, which is 20% higher than a year earlier.

Preliminary data for June 2023 sees 663 spudded, 1,050 completed and 884 started wells, according to Rystad Energy.

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

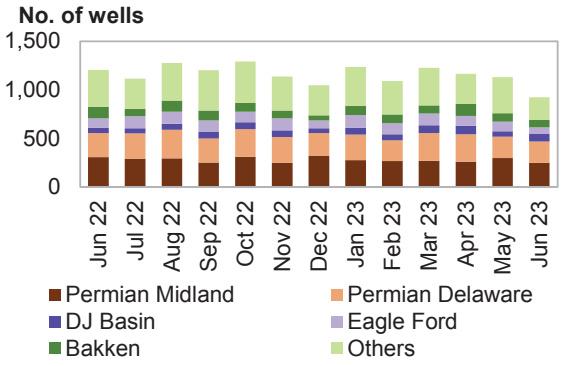


Note: May 23-Jun 23 = Preliminary data.
Sources: Rystad Energy and OPEC.

In terms of identified **US oil and gas fracking operations by region**, Rystad Energy reported that 1,165 wells were fracked in April 2023. In May and June, it stated that 1,131 and 922 wells began fracking, respectively. Preliminary numbers are based on analysis of high-frequency satellite data.

Preliminary May data showed that 297 and 222 wells were fracked in the Permian Midland and Permian Delaware, respectively. Compared with April, there was a decline of 62 wells in the Midland and a jump of 37 in the Delaware. Data also indicated that 55 wells were fracked in the DJ Basin, 99 in the Eagle Ford and 87 in the Bakken.

Graph 5 - 13: Fracked wells count per month



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

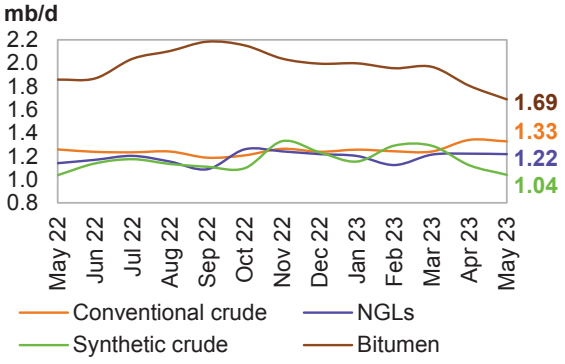
Canada

Canada's liquids production in **May** is estimated to have dropped m-o-m by 215 tb/d to an average of 5.3 mb/d. This is the lowest output seen since May 2022.

Conventional crude production fell m-o-m in May by 13 tb/d to an average of 1.3 mb/d, while NGLs output decreased marginally by 4 tb/d to an average of 1.2 mb/d.

Crude bitumen production output fell m-o-m by 116 tb/d, and synthetic crude declined m-o-m by 82 tb/d. Taken together, crude bitumen and synthetic crude production dropped by 198 tb/d to 2.7 mb/d.

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

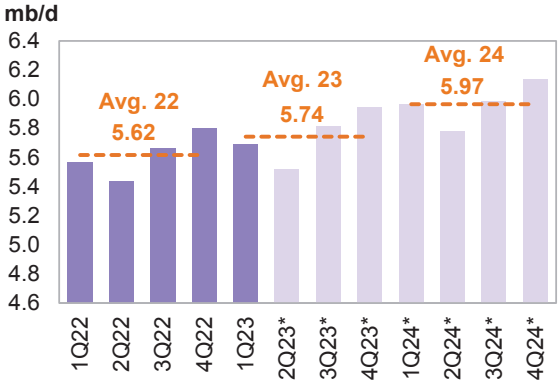


Sources: Statistics Canada, Alberta Energy Regulator and OPEC.

For **2023**, Canada's liquids production is forecast to increase by 0.1 mb/d to an average of 5.7 mb/d. This is down by 25 tb/d compared with the previous assessment. Canada's production in 2Q23 was lower-than-expected and under pressure due to planned maintenance and seasonal wildfires in some oil-producing regions, especially those in western Canada.

Scheduled maintenance programmes during 2Q23 and 3Q23 are expected to soften output. It is the oil sands that are projected to be the main driver of Canada's production through to the end of the year, driven by Kearl debottlenecking and CNRL Horizon optimization. Additionally, the Terra Nova Floating Production Storage and Offloading unit (FPSO) is expected to restart production in mid-2023.

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



*Note: * 2Q23-4Q24 = Forecast. Source: OPEC.*

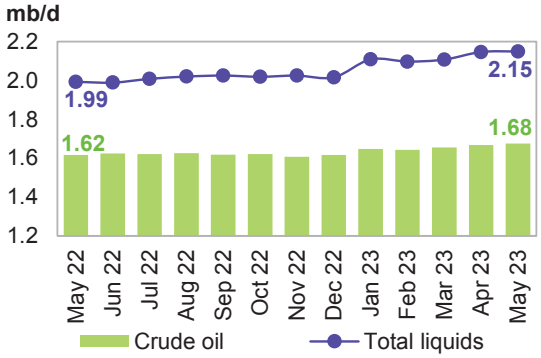
For **2024**, Canada's liquids production is forecast to gradually increase at a higher pace compared with 2023, rising by 0.2 mb/d to an average of 6.0 mb/d. Incremental production is expected to come through oil sands project ramp-ups and debottlenecks, in areas like Montney, Kearl, and Fort Hills, together with some conventional field growth.

Mexico

Mexico's crude output increased m-o-m by 8 tb/d in **May** to an average of 1.7 mb/d, and NGLs output fell by a minor 5 tb/d. Mexico's total May liquids output m-o-m remained broadly stable at an average of 2.1 mb/d, according to the Comisión Nacional de Hidrocarburos (CNH). This was higher than expected, mainly due to the continued ramp-up of the Tupilco Profundo field and a modest uptick in private operators' production.

For **2023**, liquids production is now forecast to rise by around 80 tb/d to an average of 2.1 mb/d. This is up by 17 tb/d from the previous assessment, due to higher liquid output in May and improved expectations for the rest of the year. However, in addition to the recent Pemex Nohoch Alfa platform outages, declines from other fields could start offsetting monthly gains from new fields once again in 2H23.

Graph 5 - 16: 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 an average of 2.0 mb/d. In general, it is expected that declines from mature fields 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 a few start-ups, namely TM-01, Paki, and AE-0150-Uchukil.

OECD Europe

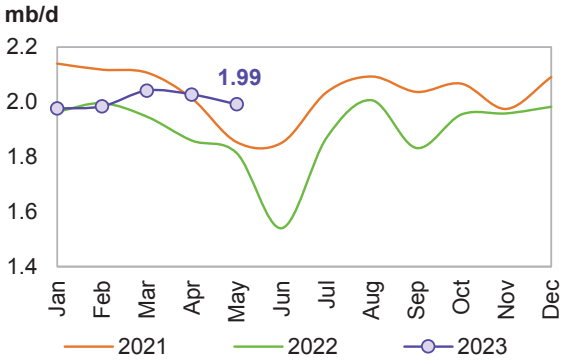
Norway

Norwegian liquids production in **May** dropped by 36 tb/d m-o-m to an average of 2.0 mb/d. While Johan Sverdrup phase-2 has been in the ramp-up phase, there were some declines due to outages and maintenance in several other fields.

Norway's crude production declined by 32 tb/d m-o-m in May to an average of 1.8 mb/d, albeit higher y-o-y by 136 tb/d. Monthly oil production was 1.3% lower than the Norwegian Petroleum Directorate's (NPD) forecast.

Production of NGLs and condensates, however, remained broadly unchanged m-o-m at an average of 0.2 mb/d, according to NPD data.

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



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

For **2023**, Norwegian liquids production is forecast to expand by 0.2 mb/d, largely unchanged compared with last month's forecast, to an average of 2.1 mb/d. The Johan Sverdrup ramp-up is projected to be the main source of growth following its phase 2 start-up in December 2022. According to Equinor, the Hammerfest LNG plant, which accounts for about 5% of Norway's gas exports to Europe, was forced to shut in twice in May after encountering technical problems.

For **2024**, Norwegian liquids production is forecast to grow by 90 tb/d to an average of 2.2 mb/d. Some small-to-large projects are scheduled to ramp up in 2024. At the same time, project start-ups are expected from offshore projects like Balder/Ringhorne, Eldfisk, Kristin, Alvheim FPSO, Hanz, Aasgard FPSO, and PL636. However, Johan Castberg is projected to be the main source of output increases, with the first oil planned for 4Q24.

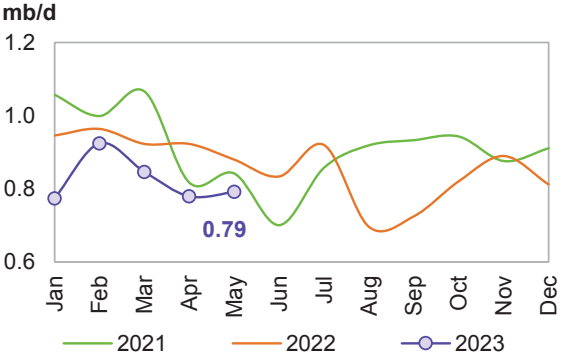
UK

In **May, UK liquids production** rose m-o-m by 13 tb/d to an average of 0.8 mb/d. Crude oil output increased m-o-m by 19 tb/d to an average of 0.7 mb/d, which was lower by 66 tb/d y-o-y, according to official data. NGLs output dropped by a minor 6 tb/d to an average of 74 tb/d. UK liquids output in May was down 10% compared to May 2022, mainly due to natural declines and outages.

For **2023**, UK liquids production is forecast to average 0.9 mb/d, down by 21 tb/d from the previous assessment due to lower-than-expected May 2023 output.

For **2024**, UK liquids production is forecast to stay steady at an average of 0.9 mb/d. Production ramp-ups will be seen in the ETAP and Clair, as well as the Anasuria and Captain EOR start-up projects. The Penguins redevelopment has faced huge delays after COVID-19 impacted the FPSO construction timeline; the start-up of this project is now expected in 1Q24. However, liquids production in the UK is expected to continue to face challenges, given an inadequate number of new projects and low investment levels.

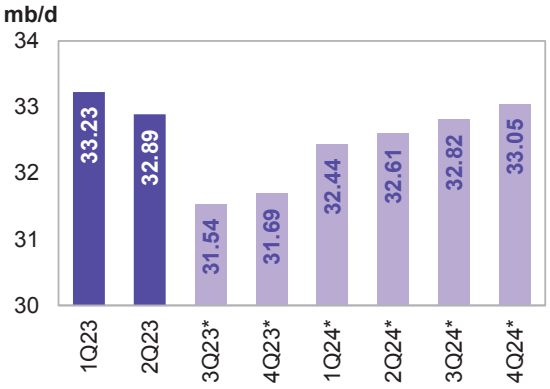
Graph 5 - 18: UK monthly liquids production development



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

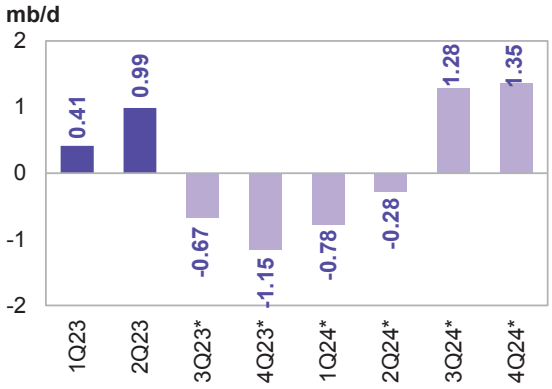
Non-OECD

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



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

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

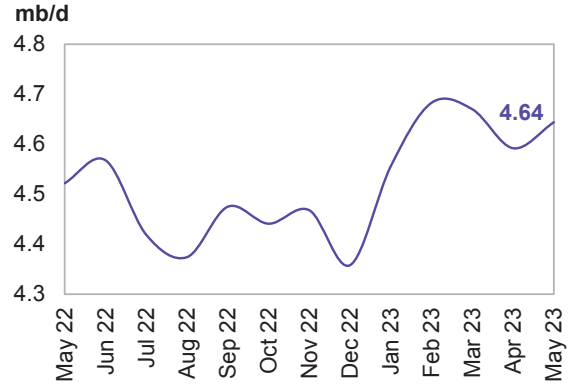


*Note: * 3Q23-4Q24 = Forecast. Source: OPEC.*

China

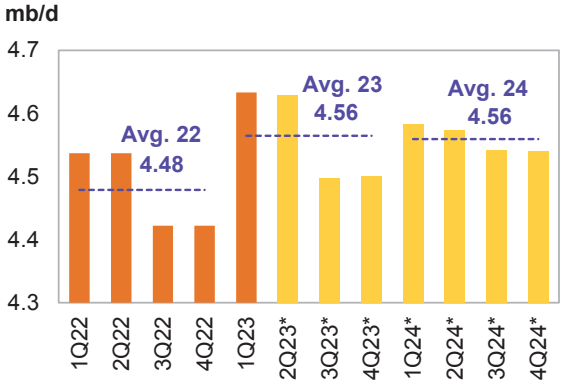
China's liquids production rose m-o-m in **May** by 52 tb/d to an average of 4.6 mb/d. This is up by 122 tb/d y-o-y, according to official data. Crude oil output in May averaged 4.3 mb/d, up by 52 tb/d compared with the previous month, and higher y-o-y by 119 tb/d. NGLs and condensate production was largely stable m-o-m, averaging 48 tb/d.

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



Sources: CNPC and OPEC.

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



*Note: * 2Q23-4Q24 = Forecast. Sources: CNPC and OPEC.*

For **2023**, y-o-y growth of 85 tb/d is forecast for an average of 4.6 m/d. This is revised up by a minor 8 tb/d from last month's assessment due to strong estimated output in 2Q23. 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.

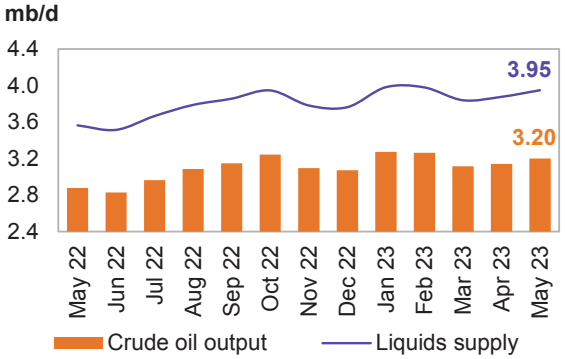
For **2024**, Chinese liquid production is expected to remain steady y-o-y and is forecast to average 4.6 m/d. For next year, Liuhua 11-1, Shayan and Liuhua 4-1 (redevelopment) are planned to come on stream under CNOOC and PetroChina. At the same time, the main ramp-ups are expected from the Changqing,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

Latin America

Brazil

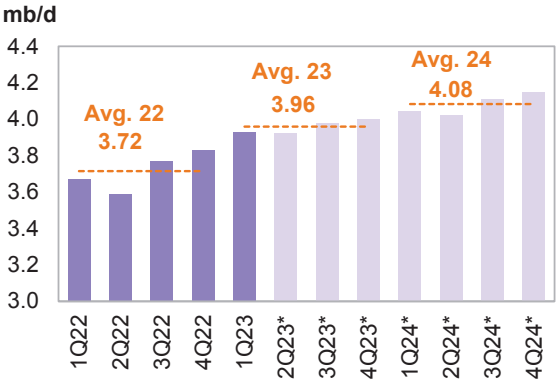
Brazil's crude output in **May** rose m-o-m by 60 tb/d to an average of 3.2 mb/d, mainly due to a production recovery and new start-ups. NGLs production, however, was broadly unchanged at an average of 80 tb/d and it is expected to remain flat in June. Biofuels output (mainly ethanol) rose m-o-m by 12 tb/d to an average of 667 tb/d, with preliminary data showing a stable trend in June. The country's total liquids production increased by 72 tb/d in May to an average of 3.9 mb/d. This is slightly lower than the highest production rate on record from January 2023.

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



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

Graph 5 - 24: Brazil's quarterly liquids production



*Note: * 2Q23-4Q24 = Forecast. Sources: ANP and OPEC.*

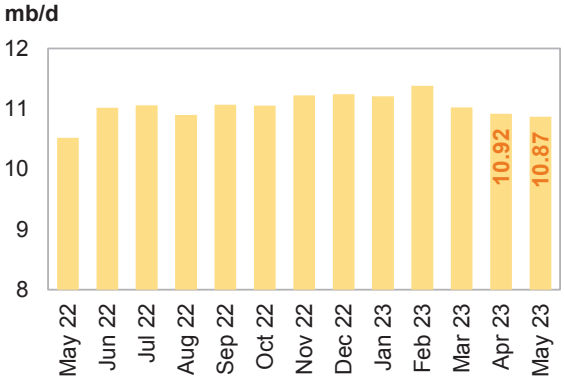
For **2023**, Brazil's liquids supply, including biofuels, is forecast to rise y-o-y by 0.2 mb/d to average 4.0 mb/d, largely unchanged from the previous forecast. Crude oil output is set to increase through production ramp-ups in major offshore fields. FPSO Anna Nery, deployed at the Marlim field located in the eastern part of the offshore Campos basin, came online in May and is expected to support the crude oil ramp-up, alongside other offshore start-ups announced since the beginning of the year.

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

Russia

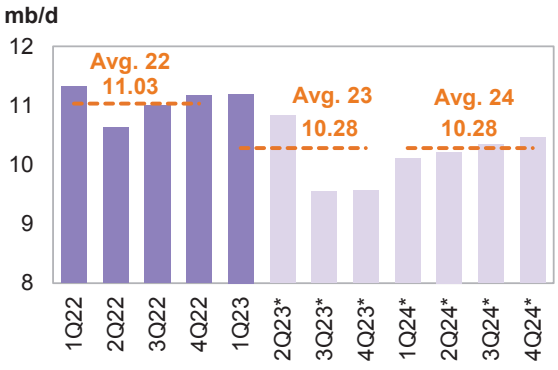
Russia's liquids production in May fell m-o-m by 49 tb/d to an average of 10.9 mb/d. This includes 9.6 mb/d of crude oil and 1.3 mb/d of NGLs and condensate.

Graph 5 - 25: Russia's monthly liquids production



Sources: Nefte Compass and OPEC.

Graph 5 - 26: Russia's quarterly liquids production



*Note: * 2Q23-4Q24 = Forecast.*
Sources: Nefte Compass and OPEC.

For **2023**, Russian liquids production is forecast to drop by 0.75 mb/d to an average of 10.3 mb/d, unchanged from the previous month's assessment. It is worth noting that the expected contraction takes into account recently announced voluntary production adjustments to the end of 2023.

For **2024**, Russian liquids production is forecast to remain unchanged y-o-y and average 10.3 mb/d. In addition to project ramp-ups from several oil fields, there will be some start-ups by Rosneft, Russneft, Lukoil, Gazprom, Neftisa and TenderResurs. However, the overall additional liquids production is expected to be offset by declines from mature fields. It should be noted that the Russian oil forecast is subject to uncertainty.

Caspian

Kazakhstan & Azerbaijan

Liquids output in Kazakhstan fell by 65 tb/d m-o-m to an average of 1.9 mb/d in **May**. Crude production was down m-o-m by 58 tb/d to an average of 1.6 mb/d, while NGLs and condensate output declined m-o-m by a minor 7 tb/d to an average of 0.3 mb/d.

For **2023**, liquids supply is forecast to increase by 0.1 mb/d to average 1.9 mb/d, broadly unchanged compared with the previous forecast. Kazakhstan's giant Kashagan oil field cut output in May after its operator shut two offshore injection wells following the detection of sour gas, restricting gas re-injection in the field.

For **2024**, 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 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.

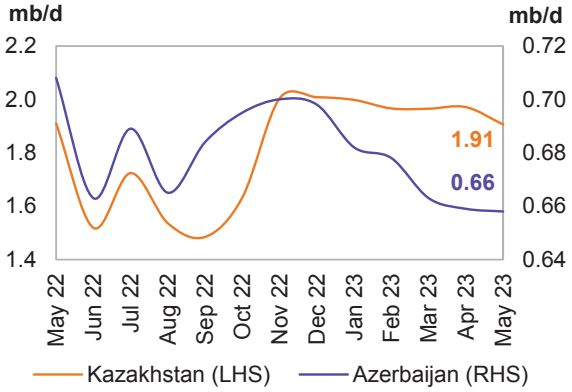
Azerbaijan's liquids production in May remained broadly stable m-o-m, averaging 0.7 mb/d, which is a drop of 65 tb/d y-o-y. Crude production averaged 511 tb/d, with NGLs output at 145 tb/d, according to official sources.

Azerbaijan's liquids supply for **2023** is forecast to rise by 22 tb/d to an average of 0.7 mb/d. This is a downward revision of a minor 7 tb/d, due to lower-than-expected major oil field production in May.

The main declines in legacy reservoirs, like Azeri-Chirag-Guneshli (ACG) oil fields, are expected to be offset by ramp-ups in other fields this year.

Azerbaijan's liquids supply for **2024** is forecast to decline by around 30 tb/d to an average of 0.7 mb/d. Growth is forecast to partly come from the Shah Deniz, Absheron, and Umid-Babek gas condensate projects. Production in Azerbaijan's ACG oil fields should also get a boost next year with a seventh ACG platform. However, the overall decline rate will be higher than the planned ramp-ups.

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



Sources: Nefte Compass, JODI and OPEC.

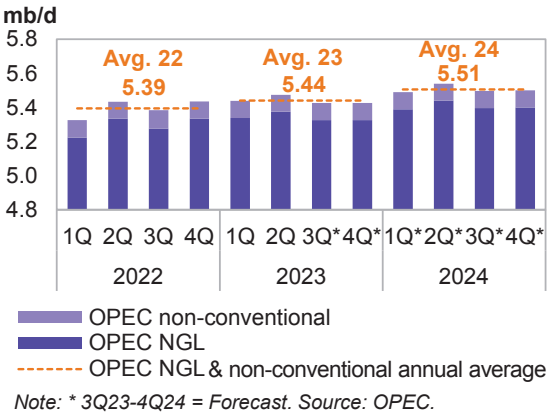
OPEC NGLs and non-conventional oils

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

NGLs output in 2Q23 is expected to have averaged 5.44 mb/d, while non-conventional output remained steady at 0.1 mb/d. Taken together, 5.47 mb/d is expected for May, according to preliminary data.

The preliminary **2024** forecast indicates growth of 65 tb/d to average 5.5 mb/d. NGLs 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 - 28: OPEC NGLs and non-conventional liquids quarterly production and forecast



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

Table 5 - 6: OPEC NGL + 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 28.19 mb/d in June 2023, higher by 91 tb/d m-o-m. Crude oil output increased mainly in IR Iran and Iraq, while production in Angola declined.

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

Secondary sources	2021	2022	4Q22	1Q23	2Q23	Apr 23	May 23	Jun 23	Change Jun/May
Algeria	913	1,017	1,030	1,015	980	1,010	973	957	*-16*
Angola	1,123	1,140	1,084	1,062	1,115	1,092	1,148	1,102	*-46*
Congo	264	262	252	270	264	262	266	262	*-4*
Equatorial Guinea	98	84	63	53	60	60	58	62	*4*
Gabon	182	197	199	194	209	209	212	207	*-5*
IR Iran	2,392	2,554	2,568	2,571	2,692	2,625	2,698	2,754	*56*
Iraq	4,046	4,439	4,505	4,372	4,138	4,107	4,127	4,181	*54*
Kuwait	2,419	2,704	2,712	2,684	2,585	2,650	2,555	2,551	*-3*
Libya	1,143	981	1,153	1,157	1,162	1,160	1,169	1,156	*-13*
Nigeria	1,372	1,204	1,172	1,345	1,225	1,098	1,277	1,298	*21*
Saudi Arabia	9,114	10,530	10,605	10,358	10,155	10,496	9,976	9,998	*22*
UAE	2,727	3,066	3,094	3,044	2,941	3,034	2,895	2,894	*-1*
Venezuela	553	675	663	696	746	727	743	767	*23*
Total OPEC	**26,346**	**28,854**	**29,099**	**28,822**	**28,271**	**28,530**	**28,099**	**28,189**	***91***

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

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

Direct communication	2021	2022	4Q22	1Q23	2Q23	Apr 23	May 23	Jun 23	Change Jun/May
Algeria	911	1,020	1,030	1,011	971	999	962	953	*-9*
Angola	1,124	1,137	1,071	1,046	1,098	1,063	1,111	1,119	*8*
Congo	267	262	261	278	280	277	285	277	*-8*
Equatorial Guinea	93	81	56	51	59	49	61	67	*6*
Gabon	181	191	183	201	203	197	218	193	*-25*
IR Iran	..	..	..	..	..	..	..	..	..
Iraq	3,971	4,453	4,505	4,288	3,959	3,938	3,955	3,985	*30*
Kuwait	2,415	2,707	2,721	2,676	2,590	2,676	2,548	2,548	*0*
Libya	1,207	..	..	1,195	1,181	1,200	1,158	1,186	*28*
Nigeria	1,323	1,138	1,137	1,277	1,144	999	1,184	1,249	*65*
Saudi Arabia	9,125	10,591	10,622	10,456	10,124	10,461	9,959	9,956	*-2*
UAE	2,718	3,064	3,093	3,041	2,941	3,041	2,891	2,893	*2*
Venezuela	636	716	693	731	808	810	819	796	*-23*
Total OPEC	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**

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

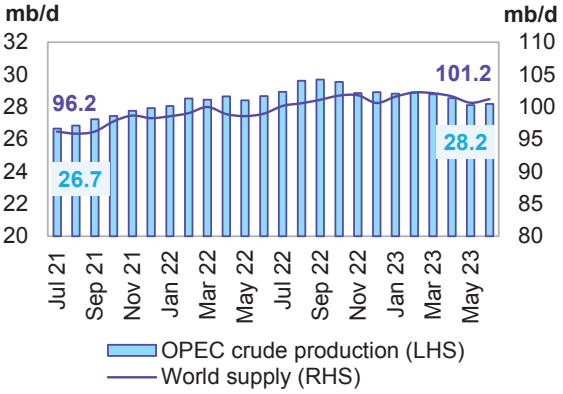
World oil supply

Preliminary data indicates that **global liquids production in June** increased by 0.6 mb/d to average 101.2 mb/d compared with the previous month.

Non-OPEC liquids production (including OPEC NGLs) is estimated to have increased m-o-m in June 2023 by 0.5 mb/d to an average of 73.0 mb/d. This was higher y-o-y by 2.7 mb/d. Preliminary estimated production drops in June were mainly driven by Russia and were more than offset by rises in OECD Americas and Other Eurasia.

The **share of OPEC crude oil in total global production** in June, decreased by 0.1 pp to stand at 27.9% compared with the previous month. Estimates are based on preliminary data for non-OPEC supply, OPEC NGLs and non-conventional oil, while assessments for OPEC crude production are based on secondary sources.

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



Source: OPEC.

Commercial Stock Movements

Preliminary May 2023 data sees total OECD commercial oil stocks up m-o-m by 20.2 mb. At 2,815 mb, they were 139 mb higher than the same time one year ago, but 101 mb lower than the latest five-year average and 140 mb below the 2015–2019 average. Within the components, crude and products stocks rose by 5.3 mb and 14.9 mb respectively.

OECD commercial crude stocks stood at 1,401 mb in May. This was 86 mb higher than the same time a year ago, but 34 mb below the latest five-year average and 84 mb lower than the 2015–2019 average. Total product inventories rose by 14.9 mb in May to stand at 1,414 mb. This is 53 mb above the same time a year ago, but 67 mb lower than the latest five-year average and 56 mb below the 2015–2019 average.

In terms of days of forward cover, OECD commercial stocks fell m-o-m by 0.4 days in May to stand at 60.2 days. This is 2.8 days above the May 2022 level, but 3.5 days lower than the latest five-year average and 1.8 days less than the 2015–2019 average.

Preliminary data for June 2023 showed that total US commercial oil stocks rose m-o-m by 5.4 mb to stand at 1,261 mb. This is 81.5 mb, or 6.9%, higher than the same month in 2022, but 24.8 mb, or 1.9%, below the latest five-year average. Crude stocks fell by 7.0 mb, while product stocks rose by 12.5 mb.

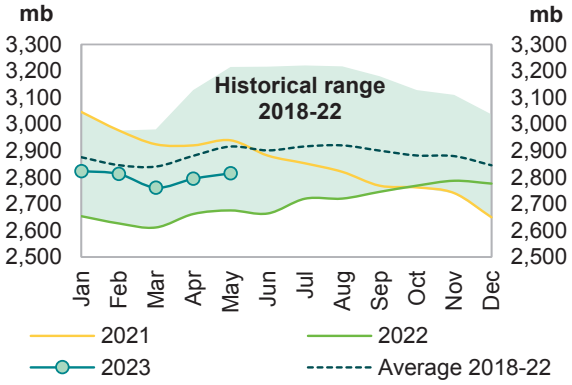
OECD

Preliminary **May 2023** data sees **total OECD commercial oil stocks** up m-o-m by 20.2 mb. At 2,815 mb, they were 139 mb higher than the same time one year ago, but 101 mb lower than the latest five-year average and 140 mb below the 2015–2019 average.

Within the components, crude and products stocks rose by 5.3 mb and 14.9 mb respectively. Within OECD regions, total commercial oil stocks in May increased in OECD America and OECD Pacific, while they fell in OECD Europe.

OECD commercial **crude stocks** stood at 1,401 mb in May. This was 86 mb higher than the same time a year ago, but 34 mb below the latest five-year average and 84 mb lower than the 2015–2019 average.

Graph 9 - 1: OECD commercial oil stocks



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

M-o-m, OECD Americas saw a crude stock draw of 0.7 mb, while stocks in OECD Asia-Pacific and OECD Europe rose by 4.3 mb and 1.8 mb respectively.

Total product inventories rose by 14.9 mb in May to stand at 1,414 mb. This is 53 mb above the same time a year ago, but 67 mb lower than the latest five-year average and 56 mb below the 2015–2019 average. M-o-m, product stocks in OECD Asia Pacific and OECD Europe witnessed a product stock draw of 0.6 mb and 4.6 mb respectively, while stocks in OECD Americas rose by 20.1 mb.

Table 9 - 1: OECD commercial stocks, mb

OECD stocks	May 22	Mar 23	Apr 23	May 23	Change May 23/Apr 23
Crude oil	1,315	1,390	1,395	1,401	*5.3*
Products	1,361	1,371	1,400	1,414	*14.9*
Total	**2,676**	**2,761**	**2,795**	**2,815**	***20.2***
Days of forward cover	**57.5**	**60.7**	**60.7**	**60.2**	***-0.4***

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

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

In terms of **days of forward cover**, OECD commercial stocks fell m-o-m by 0.4 days in May to stand at 60.2 days. This is 2.8 days above the May 2022 level, but 3.5 days lower than the latest five-year average and 1.8 days less than the 2015–2019 average.

Within OECD regions, OECD Americas were 3.4 days, OECD Europe 5.5 days and OECD Asia-Pacific 0.2 days below the latest five-year average, to stand at 59.1, 66.8 and 51.7 days respectively.

OECD Americas

OECD Americas' total commercial stocks rose by 19.4 mb m-o-m in May to settle at 1,517 mb. This is 88 mb higher than the same month in 2022, but 31 mb below the latest five-year average.

Commercial **crude oil stocks** in OECD Americas dropped m-o-m by 0.7 mb in May to stand at 774 mb, which is 41 mb higher than in May 2022, but 13 mb below the latest five-year average. The monthly drop in crude oil stocks can be attributed to higher US crude runs, which increased by around 240 tb/d to 16.61 mb/d.

By contrast, **total product stocks** in OECD Americas rose m-o-m, increasing by 20.1 mb in May to stand at 742 mb. This is 47 mb higher than the same month in 2022, but 18 mb below the latest five-year average. Lower consumption in the region was behind the product stock build.

OECD Europe

OECD Europe's total commercial stocks fell m-o-m by 2.8 mb in May to settle at 927 mb. This is 7 mb higher than the same month in 2022, but 67 mb below the latest five-year average.

OECD Europe's **commercial crude stocks** rose m-o-m by 1.8 mb to end May at 420 mb. This is 7 mb higher than one year ago, but 20 mb below the latest five-year average. The build in crude oil inventories came despite higher refinery throughput in the EU-14, plus the UK and Norway increasing m-o-m by around 230 tb/d to stand at 9.75 mb/d.

Europe's **product stocks** fell m-o-m by 4.6 mb to end May at 506 mb. This is in line with the same time a year ago, but 47 mb below the latest five-year average.

OECD Asia Pacific

OECD Asia Pacific's total commercial oil stocks rose m-o-m by 3.7 mb in May to stand at 372 mb. This is 44 mb higher than the same time a year ago, but 2.5 mb below the latest five-year average.

OECD Asia Pacific's **crude inventories** rose m-o-m by 4.3 mb to end May at 206 mb. This is 38 mb higher than one year ago, but 0.6 mb below the latest five-year average.

OECD Asia Pacific's **product inventories** fell by 0.6 mb m-o-m to end May at 166 mb. This is 6.4 mb higher than one year ago, but 2.0 mb below the latest five-year average.

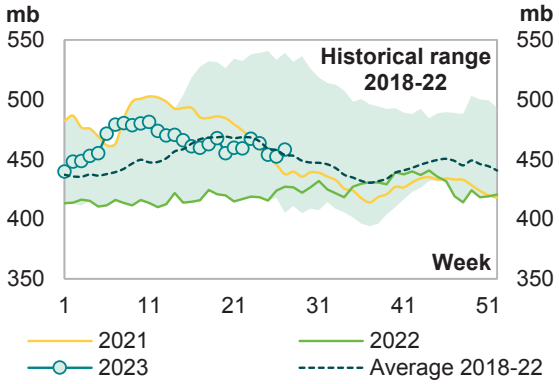
US

Preliminary data for **June 2023** showed that **total US commercial oil stocks** rose m-o-m by 5.4 mb to stand at 1,261 mb. This is 81.5 mb, or 6.9%, higher than the same month in 2022, but 24.8 mb, or 1.9%, below the latest five-year average. Crude stocks fell by 7.0 mb, while product stocks rose by 12.5 mb.

US commercial **crude stocks** in June stood at 452.2 mb. This is 34.7 mb, or 8.3%, higher than the same month of 2022, but 3.2 mb, or 0.7%, less than the latest five-year average. The monthly drop in crude oil stocks can be attributed to higher crude runs, which increased by around 550 tb/d to 17.16 mb/d.

By contrast, **total product stocks** rose in June to stand at 809.0 mb. This is 46.8 mb, or 6.1%, higher than May 2022 levels, but 21.6 mb, or 2.6%, lower than the latest five-year average. The product stock build could be attributed to lower product consumption.

Graph 9 - 2: US weekly commercial crude oil inventories



Sources: EIA and OPEC.

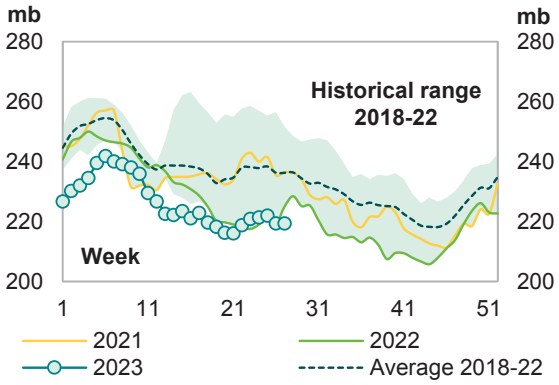
Gasoline stocks rose m-o-m by 0.6 mb in June to settle at 219.5 mb. This is 1.5 mb, or 0.7%, less than the same month of 2022; and 17.2 mb, or 7.3%, below the latest five-year average.

Distillate stocks also rose m-o-m, increasing by 1.6 mb in June to stand at 219.5 mb. This is 2.0 mb, or 1.8%, higher than the same month of 2022, but 22.6 mb, or 16.7%, below the latest five-year average.

By contrast, **residual fuel oil stocks** fell m-o-m by 1.8 mb in June At 30.9 mb, this was 1.7 mb, or 5.8%, higher than a year earlier, but 1.2 mb, or 3.9%, below the latest five-year average

Jet fuel stocks also fell m-o-m by 1.0 mb, ending June at 41.4 mb. This is 2.0 mb, or 5.2%, higher than the same month in 2022, but 0.1 mb, or 0.1%, below the latest five-year average.

Graph 9 - 3: US weekly gasoline inventories



Sources: EIA and OPEC.

Table 9 - 2: US commercial petroleum stocks, mb

US stocks	Jun 22	Apr 23	May 23	Jun 23	Change Jun 23/May 23
Crude oil	**417.5**	**459.9**	**459.2**	**452.2**	***-7.0***
Gasoline	221.0	223.6	218.8	219.5	*0.6*
Distillate fuel	111.4	112.1	111.7	113.4	*1.6*
Residual fuel oil	29.2	32.1	32.7	30.9	*-1.8*
Jet fuel	39.3	41.2	42.3	41.4	*-1.0*
Total products	**762.2**	**785.6**	**796.5**	**809.0**	***12.5***
Total	**1,179.7**	**1,245.5**	**1,255.7**	**1,261.2**	***5.4***
SPR	**493.3**	**363.7**	**353.6**	**347.2**	***-6.4***

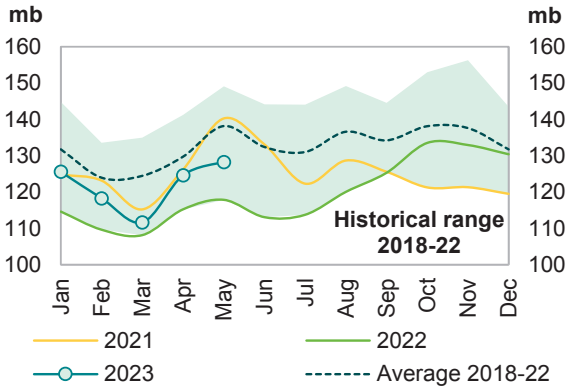
Sources: EIA and OPEC.

Japan

In **Japan**, **total commercial oil stocks** in **May** rose m-o-m by 3.7 mb to settle at 128.3 mb. This is 10.4 mb, or 8.9%, higher than the same month in 2022, but 9.9 mb, or 7.1%, below the latest five-year average. Crude stocks rose m-o-m by 4.3 mb, while product stocks fell m-o-m by 0.6 mb.

Japanese **commercial crude oil stocks** rose m-o-m by 4.3 mb in May to stand at 74.2 mb. This is 10.3 mb, or 16.2%, higher than the same month of 2022, but 4.9 mb, or 6.2%, lower than the latest five-year average. This crude stock build came on the back of lower crude runs, which decreased m-o-m by around 300 tb/d, or 11.4%, to stand at 2.32 mb/d.

Graph 9 - 4: Japan's commercial oil stocks



Sources: METI and OPEC.

Gasoline stocks rose m-o-m by 0.2 mb to stand at 10.6 mb in May. This was 0.2 mb, or 2.4%, above a year earlier, but 1.2 mb, or 10.4%, lower than the latest five-year average. The build came on the back of higher gasoline imports.

Distillate stocks also rose m-o-m by 1.2 mb to end May at 23.2 mb. This is 1.2 mb, or 5.5%, above the same month of 2022, but 1.4 mb, or 5.6%, below the latest five-year average. Within distillate components, jet fuel, kerosene and gasoil stocks increased by 4.0%, 10.7% and 0.8%, respectively.

Total residual fuel oil stocks rose m-o-m by 0.5 mb to end May at 12.0 mb. This is 0.3 mb, or 2.2%, higher than in the same month of 2022, but 0.7 mb, or 5.7%, below the latest five-year average. Within the components, fuel oil A stocks dropped m-o-m by 1.1% while fuel oil B.C stocks rose by 7.0%.

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

Japan's stocks	May 22	Mar 23	Apr 23	May 23	Change May 23/Apr 23
Crude oil	**63.9**	**62.0**	**70.0**	**74.2**	***4.3***
Gasoline	10.4	10.0	10.5	10.6	*0.2*
Naphtha	9.8	8.9	10.7	8.3	*-2.4*
Middle distillates	22.0	19.3	22.1	23.2	*1.2*
Residual fuel oil	11.7	11.4	11.5	12.0	*0.5*
Total products	**54.0**	**49.6**	**54.7**	**54.1**	***-0.6***
Total**	**117.9**	**111.7**	**124.7**	**128.3**	***3.7***

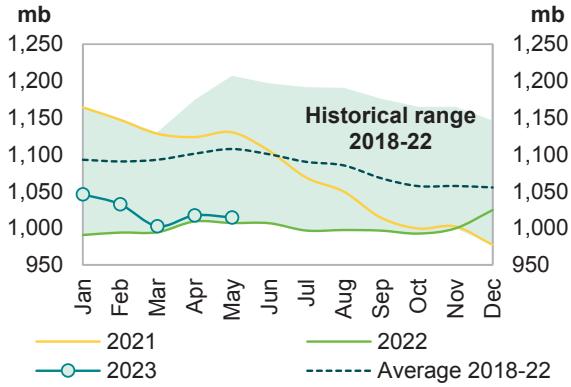
*Note: * At the end of the month. ** Includes crude oil and main products only.*
Sources: METI and OPEC.

EU-14 plus UK and Norway

Preliminary data for **May** showed that **total European commercial oil stocks** fell m-o-m by 2.8 mb to stand at 1,014.4 mb. At this level, they were 7.5 mb, or 0.7%, above the same month of 2022, but 92.9 mb, or 8.4%, lower than the latest five-year average. Crude stocks rose m-o-m by 1.8 mb, while product stocks fell by 4.6 mb.

European **crude inventories** rose in May to stand at 433.2 mb. This is 3.5 mb, or 0.8%, lower than the same month in 2022, and 48.0 mb, or 10.0%, below the latest five-year average. The build in crude oil inventories came despite higher refinery throughput in the EU-14, plus the UK and Norway increasing m-o-m by around 230 tb/d to stand at 9.75 mb/d.

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



Sources: Argus, Euroilstock and OPEC.

By contrast, **total European product stocks** fell by 4.6 mb m-o-m to end May at 581.2 mb. This is 11.0 mb or 1.9% higher than the same month of 2022, and 45.0 mb, or 7.2%, below the latest five-year average.

Gasoline stocks fell m-o-m by 1.4 mb in May to stand at 107.8 mb. At this level, they were 3.2 mb, or 2.9%, lower than the same time in 2022 and 6.1 mb, or 5.4%, below the latest five-year average.

Middle distillate stocks also fell m-o-m by 2.4 mb in May to stand at 382.5 mb. This is 18.0 mb, or 4.9%, higher the same month in 2022, but 32.2 mb, or 7.8%, lower than the latest five-year average.

Residual fuel stocks dropped m-o-m by 1.2 mb in May to stand at 60.3 mb. This is 2.5 mb, or 3.9%, lower than the same month in 2022, and 6.1 mb, or 9.1%, below the latest five-year average.

In contrast, **naphtha stocks** rose m-o-m by 0.4 mb in May, ending the month at 30.6 mb. This is 1.3 mb, or 4.2%, lower than the May 2022 level, and 0.6 mb, or 1.8%, below the latest five-year average.

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

EU stocks	May 22	Mar 23	Apr 23	May 23	Change May 23/Apr 23
Crude oil	**436.7**	**424.1**	**431.4**	**433.2**	***1.8***
Gasoline	111.0	106.9	109.1	107.8	*-1.4*
Naphtha	32.0	30.2	30.3	30.6	*0.4*
Middle distillates	364.5	380.3	384.9	382.5	*-2.4*
Fuel oils	62.8	60.9	61.5	60.3	*-1.2*
Total products	**570.2**	**578.2**	**585.8**	**581.2**	***-4.6***
Total	**1,006.9**	**1,002.3**	**1,017.2**	**1,014.4**	***-2.8***

Sources: Argus, Euroilstock and OPEC.

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

Singapore

In **May**, **total product stocks in Singapore** fell m-o-m by 3.9 mb to reach 42.0 mb. This is 1.0 mb, or 2.3%, lower than the same month in 2022, and 5.2 mb, or 11.0%, below the latest five-year average.

Light distillate stocks fell m-o-m by 0.1 mb in May to stand at 15.1 mb. This is 0.2 mb, or 1.2%, lower than the same month of 2022, but 1.2 mb, or 8.7 %, above the latest five-year average.

Residual fuel oil stocks also fell m-o-m by 3.8 mb, ending May at 18.9 mb. This is 1.8 mb, or 8.5%, lower than May 2022, and 3.9 mb, or 17.0%, less than the latest five-year average.

Meanwhile, **middle distillate stocks** remained unchanged m-o-m in May to stand at 8.0 mb. This is 1.0 mb, or 13.8%, higher than a year earlier, but 2.5 mb, or 23.8%, lower than the latest five-year average.

ARA

Total product stocks in ARA rose m-o-m by 0.5 mb in **May.** At 45.8 mb, they were 8.6 mb, or 23.1%, higher than the same month in 2022 and 1.7 mb, or 3.8%, higher than the latest five-year average.

Gasoline stocks in May rose by 0.4 mb m-o-m to stand at 11.4 mb. This is 0.8 mb, or 8.0%, higher than the same month of 2022 and 1.8 mb, or 19.1%, higher than the latest five-year average.

Gasoil stocks also rose by 0.4 mb m-o-m, ending May at 17.1 mb. This is 5.9 mb, or 52.4%, higher than May 2022 and 0.2 mb, or 1.2%, above the latest five-year average.

Fuel oil stocks also increased by 0.1 mb m-o-m in May to stand at 8.1 mb, which is 1.2 mb, or 17.1%, higher than in May 2022 and broadly at the level of the latest five-year average.

By contrast, **jet oil stocks** fell by 0.5 mb m-o-m to stand at 6.7 mb. This is 0.4 mb, or 5.9%, higher than levels of May 2022 and inline when compared with the latest five-year average.

Fujairah

During the week ending 3 July 2023, **total oil product stocks in Fujairah** fell w-o-w by 0.49 mb to stand at 20.19 mb, according to data from Fed Com and S&P Global Commodity Insights. At this level, total oil stocks were 2.06 mb lower than at the same time a year ago.

Light distillate stocks fell w-o-w by 0.87 mb to stand at 6.23 mb, which is 0.41 mb higher than a year ago.

By contrast, **middle distillate stocks** rose w-o-w by 0.06 mb to stand at 3.56 mb, which is 0.25 mb lower than the same time last year.

Heavy distillate stocks also rose by 0.31 mb w-o-w to stand at 10.40 mb, which is 2.22 mb lower than the same period a year ago.

Balance of Supply and Demand

Demand for OPEC crude in 2023 is revised up by 0.1 mb/d from the previous assessment to stand at 29.4 mb/d. This is around 1.0 mb/d higher than in 2022.

According to secondary sources, OPEC crude production averaged 28.8 mb/d in 1Q23, which is 0.3 mb/d higher than the demand for OPEC crude. In 2Q22, OPEC crude production averaged 28.3 mb/d, which is 0.1 mb/d lower than the demand for OPEC crude.

Based on the initial world oil demand and non-OPEC supply forecast for 2024, demand for OPEC crude is expected to reach 30.2 mb/d, 0.8 mb/d higher than the estimated level in 2023.

Balance of supply and demand in 2023

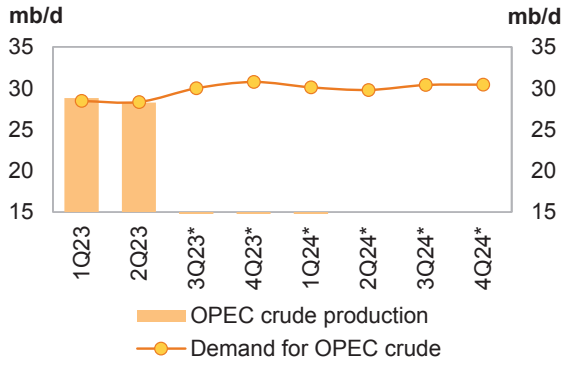
Demand for OPEC crude in 2023 is revised up by 0.1 mb/d from the previous assessment to stand at 29.4 mb/d. This is around 1.0 mb/d higher than in 2022.

Compared with the previous assessment, both 1Q23 and 3Q23 were revised up by 0.1 mb/d each, while 4Q23 is revised up by 0.2 mb/d. Meanwhile, demand for OPEC crude in 3Q23 remained unchanged.

Compared with the same quarters in 2022, demand for OPEC crude in 1Q23 is estimated to be 0.1 mb/d lower, while 2Q23, 3Q23 and 4Q23 are expected to be higher by 0.3 mb/d, 1.7 mb/d and 2.0 mb/d, respectively.

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

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



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

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

							Change
	2022	1Q23	2Q23	3Q23	4Q23	2023	2023/22
(a) World oil demand	**99.56**	**101.61**	**101.22**	**101.95**	**103.21**	**102.00**	***2.44***
Non-OPEC liquids production	65.73	67.69	67.39	66.51	67.00	67.14	*1.41*
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	**71.13**	**73.13**	**72.86**	**71.94**	**72.43**	**72.59**	***1.46***
Difference (a-b)	**28.44**	**28.48**	**28.36**	**30.01**	**30.78**	**29.42**	***0.98***
OPEC crude oil production	**28.85**	**28.82**	**28.27**				
Balance	**0.42**	**0.35**	**-0.09**				

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

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

World oil demand and supply balance	2020	2021	2022	1Q23	2Q23	3Q23	4Q23	2023	1Q24	2Q24	3Q24	4Q24	2024
World demand													
Americas	22.45	24.32	25.01	24.58	25.14	25.51	25.09	25.08	24.76	25.31	25.71	25.25	25.26
of which US	*18.35*	*20.03*	*20.43*	*20.12*	*20.52*	*20.75*	*20.37*	*20.44*	*20.12*	*20.66*	*20.91*	*20.51*	*20.58*
Europe	12.41	13.11	13.50	13.06	13.34	14.07	13.37	13.46	13.11	13.40	14.14	13.41	13.52
Asia Pacific	7.17	7.38	7.43	7.86	7.05	7.27	7.69	7.47	7.89	7.07	7.30	7.70	7.49
Total OECD	**42.03**	**44.80**	**45.95**	**45.49**	**45.52**	**46.85**	**46.16**	**46.01**	**45.77**	**45.77**	**47.16**	**46.36**	**46.27**
China	13.94	15.00	14.85	15.63	15.96	15.38	16.11	15.77	16.20	16.42	16.00	16.78	16.35
India	4.51	4.77	5.14	5.40	5.41	5.21	5.50	5.38	5.63	5.65	5.44	5.69	5.60
Other Asia	8.13	8.67	9.02	9.40	9.65	9.14	9.24	9.35	9.66	9.90	9.50	9.60	9.66
Latin America	5.90	6.25	6.44	6.60	6.52	6.71	6.68	6.63	6.79	6.71	6.93	6.84	6.82
Middle East	7.45	7.79	8.29	8.63	8.47	8.86	8.73	8.67	8.91	8.91	9.41	8.97	9.05
Africa	4.08	4.22	4.40	4.69	4.32	4.43	4.88	4.58	4.80	4.51	4.60	5.01	4.73
Russia	3.39	3.61	3.56	3.68	3.45	3.59	3.87	3.65	3.75	3.56	3.75	3.94	3.75
Other Eurasia	1.07	1.21	1.15	1.24	1.16	1.02	1.22	1.16	1.27	1.20	1.08	1.28	1.21
Other Europe	0.70	0.75	0.77	0.84	0.76	0.75	0.83	0.80	0.86	0.77	0.77	0.84	0.81
Total Non-OECD	**49.16**	**52.27**	**53.62**	**56.12**	**55.70**	**55.11**	**57.05**	**55.99**	**57.87**	**57.62**	**57.48**	**58.96**	**57.98**
(a) Total world demand	**91.19**	**97.08**	**99.56**	**101.61**	**101.22**	**101.95**	**103.21**	**102.00**	**103.64**	**103.39**	**104.63**	**105.31**	**104.25**
Y-o-y change	***-9.09***	***5.89***	***2.49***	***2.16***	***2.92***	***2.47***	***2.20***	***2.44***	***2.03***	***2.17***	***2.68***	***2.10***	***2.25***
Non-OPEC liquids production													
Americas	24.87	25.45	26.84	27.88	27.95	28.22	28.42	28.12	28.64	28.67	29.14	29.45	28.98
of which US	*17.76*	*18.04*	*19.21*	*20.08*	*20.29*	*20.34*	*20.45*	*20.29*	*20.62*	*20.85*	*21.11*	*21.28*	*20.97*
Europe	3.92	3.79	3.57	3.66	3.63	3.80	3.94	3.76	3.94	3.79	3.79	3.90	3.85
Asia Pacific	0.52	0.51	0.48	0.45	0.45	0.48	0.47	0.46	0.47	0.44	0.45	0.44	0.45
Total OECD	**29.31**	**29.75**	**30.89**	**32.00**	**32.03**	**32.50**	**32.84**	**32.34**	**33.05**	**32.90**	**33.39**	**33.79**	**33.28**
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	0.77	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	2.31	2.33	2.36	2.33	2.31	2.28	2.26	2.26	2.28
Latin America	6.02	5.96	6.34	6.69	6.71	6.70	6.79	6.72	6.89	6.96	7.09	7.17	7.03
Middle East	3.15	3.19	3.29	3.27	3.29	3.29	3.30	3.29	3.34	3.33	3.32	3.32	3.32
Africa	1.41	1.34	1.29	1.25	1.28	1.32	1.31	1.29	1.31	1.34	1.37	1.38	1.35
Russia	10.54	10.80	11.03	11.20	10.83	9.55	9.57	10.28	10.10	10.22	10.35	10.46	10.28
Other Eurasia	2.91	2.93	2.83	3.00	2.96	2.95	2.98	2.97	3.03	3.02	3.00	3.04	3.02
Other Europe	0.12	0.11	0.11	0.11	0.11	0.11	0.10	0.11	0.10	0.10	0.10	0.10	0.10
Total Non-OECD	**31.64**	**31.85**	**32.44**	**33.23**	**32.89**	**31.54**	**31.69**	**32.33**	**32.44**	**32.61**	**32.82**	**33.05**	**32.73**
Total Non-OPEC production	60.95	61.60	63.34	65.23	64.92	64.04	64.53	64.68	65.50	65.52	66.20	66.83	66.01
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**	**63.88**	**65.73**	**67.69**	**67.39**	**66.51**	**67.00**	**67.14**	**68.01**	**68.03**	**68.72**	**69.35**	**68.53**
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**	**69.17**	**71.13**	**73.13**	**72.86**	**71.94**	**72.43**	**72.59**	**73.50**	**73.57**	**74.22**	**74.85**	**74.04**
Y-o-y change	***-2.55***	***0.90***	***1.96***	***2.29***	***2.65***	***0.76***	***0.16***	***1.46***	***0.37***	***0.71***	***2.28***	***2.43***	***1.45***
OPEC crude oil production (secondary sources)	25.72	26.35	28.85	28.82	28.27								
Total liquids production	94.00	95.51	99.98	101.95	101.13								
Balance (stock change and miscellaneous)	2.81	-1.56	0.42	0.35	-0.09								
OECD closing stock levels, *mb*													
Commercial	3,037	2,649	2,776	2,761									
SPR	1,541	1,484	1,214	1,217									
Total	**4,578**	**4,133**	**3,990**	**3,978**									
Oil-on-water	1,148	1,202	1,399	1,413									
Days of forward consumption in OECD, *days*													
Commercial onland stocks	68	58	60	61									
SPR	34	32	26	27									
Total	**102**	**90**	**87**	**87**									
Memo items													
(a) - (b)	**22.92**	**27.91**	**28.44**	**28.48**	**28.36**	**30.01**	**30.78**	**29.42**	**30.13**	**29.82**	**30.42**	**30.46**	**30.21**

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

Source: OPEC.

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

Oil Market Report - July 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

- Global oil demand is projected to climb by 2.2 mb/d in 2023 to reach 102.1 mb/d, a new record. However, persistent macroeconomic headwinds, apparent in a deepening manufacturing slump, have led us to revise our 2023 growth estimate lower for the first time this year, by 220 kb/d. Buoyed by surging petrochemical use, China will account for 70% of global gains, while OECD consumption remains anaemic. Growth will slow to 1.1 mb/d in 2024.

- World oil supply rose 480 kb/d to 101.8 mb/d in June but is set to fall sharply this month as Saudi Arabia makes a sharp 1 mb/d voluntary output cut. For 2023, global production is forecast to increase by 1.6 mb/d to 101.5 mb/d, as non-OPEC+ expands by 1.9 mb/d. In 2024, global supply is set to rise by 1.2 mb/d to a new record of 102.8 mb/d, with non-OPEC+ accounting for all of the increase.

- Refinery crude throughput estimates for 2023 and 2024 have been raised by 130 kb/d and 90 kb/d, respectively, to 82.5 mb/d and 83.5 mb/d. Higher Russian crude runs and the start-up of new refining capacity underpin the revision. Refining margins remain robust, with very strong Atlantic Basin gasoline cracks and rapid gains in diesel, jet fuel and fuel oil more than offsetting weak naphtha cracks.

- Russian oil exports fell 600 kb/d to 7.3 mb/d in June, their lowest since March 2021. Estimated export revenues plunged by $1.5 bn to $11.8 bn – nearly half the levels of a year ago. Moscow has promised a further 500 kb/d cut to exports from August to stem declining prices and revenues, but may hold production steady as domestic oil demand rises seasonally.

- A substantial 44.2 mb build in non-OECD countries, led by a surge in China, pushed global observed oil inventories up by 19.4 mb in May to the highest since September 2021. By contrast, OECD oil stocks drew by a marginal 1.8 mb. Oil on water declined by 23 mb as additional OPEC+ output cuts saw seaborne oil exports falling to their lowest since January. Preliminary data show a 9.2 mb draw in June.

- Amid range-bound trading, ICE Brent futures fell by $1/bbl m-o-m in June to $75/bbl, as hawkish central bank policies continued to weigh on investor sentiment. Additional voluntary cuts by some OPEC members and a weaker US dollar failed to dispel the macro gloom. Asian crude benchmark Dubai outperformed WTI and Brent, as a tight East of Suez sour crude market contrasted sharply with a comfortably supplied Atlantic Basin. At the time of writing, Brent was trading around $78/bbl.

Running out of steam

Benchmark crude oil prices traded in a narrow range in June as persistent economic woes overshadowed deepening supply cuts from some OPEC+ countries. Amid an overall slackening in oil demand growth, China's widely anticipated reopening has so far failed to extend beyond travel and services, with its economic recovery losing steam after the bounce earlier in the year. North Sea Dated hovered around $75/bbl for the month, marginally below May levels and a staggering $49/bbl less than a year ago. At the time of writing, the North Sea benchmark had inched up to $80/bbl.

Lower production from Saudi Arabia and core OPEC+ members since production cuts were first implemented last November has so far been offset by higher output from other producers. In June, global oil supply was a mere 70 kb/d below October levels just before the first round of OPEC+ cuts kicked in. Iran, exempt from cuts due to sanctions, ramped up production by 530 kb/d over the same period, reaching a five-year high. At the same time, output recovered in Kazakhstan and Nigeria. Outside of the alliance, supply from the United States rose by 610 kb/d as natural gas liquids output surged to all-time highs while biofuels increased seasonally. But global supply could tumble by more than 1 mb/d this month as Riyadh implements steeper cuts. The Kingdom's crude output is set to plunge to a two-year low of around 9 mb/d in July and August, leaving it trailing behind Russia as the bloc's top crude producer.

World oil demand is coming under pressure from the challenging economic environment, not least because of the dramatic tightening of monetary policy in many advanced and developing countries over the past twelve months. Growth in 2023 has been revised down for the first time this year, to 2.2 mb/d from 2.4 mb/d expected previously, with China poised to account for 70% of the total. While Chinese demand growth continues to surprise to the upside, a surge in domestic petrochemical activity has undermined steam cracker margins and activity elsewhere. Demand in the OECD, and Europe in particular, is languishing amid a grinding slowdown in industrial activity. African countries have seen imports and demand decline by higher retail fuel prices after subsidies were dismantled. Even so, global oil demand is set to rise seasonally by 1.6 mb/d from 2Q23 to 3Q23, and to average 102.1 mb/d for the year as whole.

Global observed oil inventories look relatively comfortable, having recovered to their highest level since September 2021. OECD industry stocks rose by 170 kb/d in May. At the same time, China posted its largest monthly increase in crude stocks in a year, at a steep 1.1 mb/d, fuelled by a sharp rise in crude oil imports and despite near-record refinery throughput rates. China's recent buying spree included heavily discounted Russian and Iranian barrels. Global oil balances imply a marginal stock build in 2Q23. But with the surplus mostly in Chinese crude and US LPG tanks, ongoing draws in oil on water and deeper supply cuts starting this month suggest the oil market may soon see renewed volatility.

OPEC+ crude oil production[1]

million barrels per day

	May 2023 Supply	Jun 2023 Supply	Jun Prod vs Target	Jun-2023 Target	Sustainable Capacity[2]	Eff Spare Cap vs Jun[3]
Algeria	0.97	0.94	-0.07	1.01	1.0	0.06
Angola	1.11	1.12	-0.34	1.46	1.11	-0.01
Congo	0.28	0.27	-0.04	0.31	0.27	0.0
Equatorial Guinea	0.06	0.07	-0.05	0.12	0.06	-0.01
Gabon	0.21	0.21	0.03	0.18	0.19	-0.02
Iraq	4.12	4.17	-0.26	4.43	4.75	0.58
Kuwait	2.57	2.55	-0.13	2.68	2.83	0.28
Nigeria	1.18	1.24	-0.5	1.74	1.33	0.09
Saudi Arabia	9.98	9.98	-0.5	10.48	12.25	2.27
UAE	3.26	3.24	0.22	3.02	4.2	0.96
Total OPEC-10	**23.74**	**23.79**	**-1.63**	**25.42**	**28.0**	**4.25**
Iran[4]	3.01	3.01			3.8	
Libya[4]	1.15	1.12			1.22	0.1
Venezuela[4]	0.8	0.78			0.84	0.06
Total OPEC	**28.7**	**28.7**			**33.86**	**4.4**
Azerbaijan	0.5	0.5	-0.18	0.68	0.54	0.04
Kazakhstan	1.6	1.6	-0.03	1.63	1.67	0.07
Mexico[5]	1.68	1.68		1.75	1.68	-0.0
Oman	0.81	0.8	-0.04	0.84	0.85	0.05
Russia	9.45	9.45	-0.49	9.95	9.98	
Others [6]	0.85	0.87	-0.18	1.06	0.82	0.0
Total Non-OPEC	**14.89**	**14.92**	**-0.92**	**15.91**	**15.54**	**0.16**
OPEC+ 19 in cut deal[4]	**36.96**	**37.03**	**-2.55**	**39.57**	**41.86**	**4.41**
Total OPEC+	**43.59**	**43.62**			**49.4**	**4.56**

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.

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

2023-07-13 08:00:00.21 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	104.5	104.3	102.6	101.4	103.3	103.1	101.4	100.5	103.2	102.1
Total OECD	46.1	46.8	45.3	45.1	46.4	46.9	45.6	45.5	45.8	46.1
Americas	25.0	25.4	24.9	24.4	25.2	25.5	25.3	24.6	24.9	25.2
Europe	13.3	13.9	13.2	12.9	13.4	13.9	13.2	13.1	13.3	13.4
Asia Oceania	7.9	7.5	7.1	7.8	7.9	7.4	7.0	7.9	7.6	7.6
Non-OECD countries	58.4	57.5	57.4	56.3	56.9	56.2	55.9	55.0	57.4	56.0
FSU	5.0	5.0	4.8	4.9	5.0	5.0	4.8	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	17.3	16.6	16.9	16.4	16.6	16.2	16.4	15.6	16.8	16.2
Other Asia	15.2	14.5	14.8	14.7	14.8	14.0	14.4	14.4	14.8	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	9.6	9.3	8.9	9.0	9.5	9.0	8.8	9.2	9.1
Africa	4.6	4.4	4.4	4.4	4.3	4.2	4.2	4.4	4.5	4.3
	Supply									
Total Supply	n/a	n/a	n/a	n/a	n/a	n/a	101.5	101.7	n/a	n/a
Non-OPEC	68.8	68.9	68.5	67.8	67.6	67.5	67.2	66.9	68.5	67.3
Total OECD	31.4	31.2	31.1	31.0	31.0	30.6	30.5	30.4	31.2	30.6
Americas	27.7	27.6	27.4	27.2	27.3	27.1	26.8	26.7	27.5	27.0
Europe	3.3	3.2	3.2	3.3	3.3	3.1	3.2	3.3	3.2	3.2
Asia Oceania	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5
Non-OECD	31.7	31.6	31.6	31.5	31.1	31.0	31.2	31.6	31.6	31.2
FSU	13.8	13.7	13.7	13.7	13.6	13.5	13.7	14.1	13.7	13.7
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	4.3	4.3	4.2	4.3	4.3	4.3	4.3	4.3
Other Asia	2.6	2.6	2.6	2.6	2.6	2.7	2.7	2.7	2.6	2.7
Americas	6.5	6.5	6.4	6.4	6.2	6.1	5.9	6.0	6.5	6.0
Middle East	3.1	3.1	3.1	3.1	3.1	3.1	3.2	3.2	3.1	3.2
Africa	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.3	1.3
Processing Gains	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.4	2.4
Total OPEC	n/a	n/a	n/a	n/a	n/a	n/a	34.2	34.8	n/a	n/a
Crude	n/a	n/a	n/a	n/a	n/a	n/a	28.8	29.3	n/a	n/a
Natural gas										
liquids NGLs	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.4	5.5	5.5
Call on OPEC crude										
and stock change *	30.2	29.9	28.6	28.2	30.2	30.0	28.7	28.1	29.2	29.3

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

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

SOURCE: International Energy Agency

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Mark Evans

IEA: June Crude Oil Production in OPEC Countries (Table)
2023-07-13 08:00:00.20 GMT
By Kristian Siedenburg
(Bloomberg) -- Following is a summary of oil production in OPEC countries from the International Energy Agency in Paris:

	June 2023	May 2023	June MoM
Total OPEC	28.70	28.70	0.00
Total OPEC10	23.79	23.74	0.05
Algeria	0.94	0.97	-0.03
Angola	1.12	1.11	0.01
Congo	0.27	0.28	-0.01
Equatorial Guinea	0.07	0.06	0.01
Gabon	0.21	0.21	0.00
Iraq	4.17	4.12	0.05
Kuwait	2.55	2.57	-0.02
Nigeria	1.24	1.18	0.06
Saudi Arabia	9.98	9.98	0.00
UAE	3.24	3.26	-0.02
Iran	3.01	3.01	0.00
Libya	1.12	1.15	-0.03
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 Forecast Raised for 2024; Stock Refills
2023-07-13 09:11:30.576 GMT
By Rachel Graham
(Bloomberg) -- Summary of stories from IEA's monthly Oil Market Report:
* IEA Cuts Global Oil Demand Outlook for 2023 as Economy Slows

** 2023 demand forecast cut by 220k b/d on economic headwinds
** Global oil demand still set to rise to record 102.1m b/d in 2023
* For 2024, oil demand growth to slow to 1.1m b/d
** That's driven by non-OECD where growth is seen at 1.4m b/d, while OECD demand is set to fall
** Forecast for next year revised up by 290k b/d
* 2023 oil output is forecast to increase by 1.6m b/d to 101.5m
* 2024 oil output to rise by 1.2m b/d to record 102.8m
* IEA World Oil Supply/Demand Key Forecasts
** Click here for detailed quarterly forecast table by region
** Click here for revisions to supply/demand forecast
* Russian Oil Revenue at Four-Month Low as Exports Slump
** Russian oil exports fell 600k b/d to 7.3m in June
* IEA Says Government Petroleum Stock Refills Won't Roil Oil Price
* OPEC Output Held Steady Last Month at 28.7m B/D
** Click here for table
* China Petchem Surge Risks Plant Shutdowns Elsewhere
* US NGL Output Surge Is Weighing on Propane Prices
* IEA Raises Refining-Runs Estimate on Russia, Plant Startups
* West African Crude Prices Gained From Robust Asia Demand

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IEA World Oil Supply/Demand Key Forecasts
2023-07-13 08:00:00.28 GMT
By Kristian Siedenburg
(Bloomberg) -- World oil demand 2024 forecast was revised to 103.2m b/d from 103.1m b/d in Paris-based Intl Energy Agency's latest monthly report.
* 2023 world demand was revised to 102.1 from 102.3m b/d
* Demand change in 2024 est. 1.1% y/y or 1.1m b/d
* Non-OPEC supply 2024 was revised to 68.5m b/d from 68.3m b/d 23.
* Call on OPEC crude 2023 was revised to 29.3 m b/d from 29.7m b/d
** OPEC crude production in June was unchanged at 28.7m b/d

* Detailed table: FIFW NSN RXQ5OVGFA9Z4 <GO>
* NOTE: Fcasts based off IEA's table providing one decimal point

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OPEC Crude Output Held Steady Last Month at 28.7m B/D, IEA Says
2023-07-13 08:00:00.1 GMT
By Amanda Jordan
(Bloomberg) -- OPEC's June crude output was unchanged from a month earlier at 28.7m b/d as higher supply from Nigeria and Iraq was offset by slight declines elsewhere, the IEA said in a report.
* Saudi output was steady at 9.98m b/d
* UAE production inched down 20k b/d to 3.24m b/d
* Kuwaiti supply also slipped 20k b/d, to 2.55m b/d
* Iraqi production climbed 50k b/d to 4.17m b/d
* Output in Iran, exempt from OPEC+ quotas, held steady at 3.01m b/d, a five-year high
* Nigerian supply rose 60k b/d to 1.24m b/d
* Algerian production edged down 30k b/d to 940k b/d
* Libyan output eased to 1.12m b/d
* NOTE: OPEC is due to release its own production figures for June later Thursday

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IEA Cuts Global Oil Demand Outlook for 2023 as Economy Slows
2023-07-13 08:00:00.9 GMT
By Grant Smith
(Bloomberg) -- Global oil demand won't grow as fast as previously expected this year due to the faltering economies of

developed nations, the International Energy Agency said.
World fuel consumption will increase by 2.2 million barrels a day — or about 2% — in 2023, a reduction of about 220,000 barrels from last month's forecast, the Paris-based agency said in a report on Thursday. Demand nonetheless remains on track to hit record levels later this year, draining inventories substantially in the second half.
"World oil demand is coming under pressure from the challenging economic environment, not least because of the dramatic tightening of monetary policy," the IEA said. "Demand in the OECD, and Europe in particular, is languishing amid a grinding slowdown in industrial activity."
Crude futures climbed above $80 a barrel in London on Wednesday for the first time in two months, partly on signs that cooling inflation may help end the cycle of rising interest rates. World oil markets are tightening as Saudi Arabia and its OPEC+ partners curb supplies while fuel use continues to recover from the pandemic.
Markets have been fractionally oversupplied this quarter, with inventories at their highest level in almost two years. Supply restraint by the Saudis has been offset by other producers, such as Iran and the US, the IEA said.

Given the weaker demand outlook, markets won't tighten as sharply in the months ahead as previously thought, according to the agency. Yet the rest of 2023 will still be marked by supply deficits, as global demand increases to an all-time high of 102.1 million barrels a day on average this year. About 70% of the growth in consumption will come from China as it expands petrochemical use.
Production in the OPEC+ alliance is poised to slump by 1 million barrels a day this month as Saudi Arabia implements a new cutback that depletes its output to a two-year low. Last week the kingdom pledged to prolong that reduction into August, and its ally Russia also promised to pare exports.
For 2024, the IEA boosted world consumption growth estimates by 290,000 barrels a day as a stronger outlook for China stands to bolster gasoil use. Still, at 1.1 million barrels a day the global growth rate for next year is barely half of this year's level amid improved efficiency and the growing popularity of electric vehicles.
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IEA Says Government Petroleum Stock Refills Won't Roil Oil Price
2023-07-13 08:00:00.17 GMT
By Alaric Nightingale
(Bloomberg) -- A refilling of oil inventories by OECD governments following a record release of stockpiles should have little impact on prices, the International Energy Agency said.
A total of 182.7 million barrels of crude and oil products were placed into the market since March and April last year, in response to Russia's invasion of Ukraine. The IEA's governing board last month agreed to conclude the measures, the largest of their kind ever.
Following termination of the collective actions, IEA members need to ensure they have amassed 90 days of net imports by the first quarter of next year. Given that most countries already have enough to cover their obligations, they won't need to materially increase their stock levels, the IEA said in its monthly oil market report.
As such "the impact on markets is expected to be marginal" it said.
As of April, countries in OECD Europe and OECD Asia Oceania had 134 days and 175 days of net imports, respectively. All OECD Americas member countries are net exporters, meaning they don't have stock obligations.
Even so, the US has committed to replacing some volumes sold last year as the nation's Strategic Petroleum Reserve is at the lowest since the 1980s. The US Department of Energy will purchase about 12 million barrels between August and November.
The IEA said that it still expects the price impact to be minimal, since the refill rate is "far less" than the speed at which inventories were released between March and December last year.

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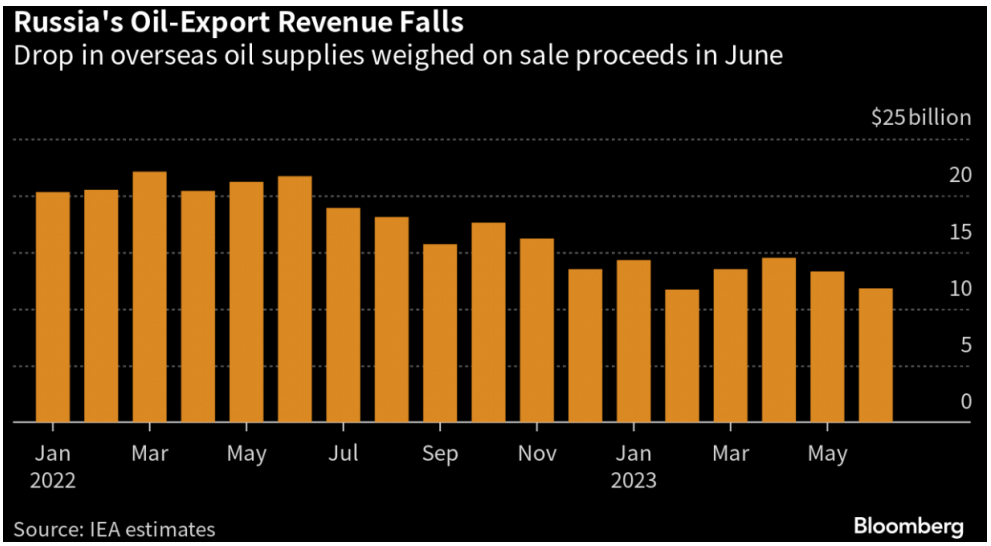
Russian Oil Revenue at Four-Month Low as Exports Slump, IEA Says
2023-07-13 08:01:27.201 GMT
By Bloomberg News
(Bloomberg) -- Russia's oil-export revenues last month

dropped to the lowest since February amid a seasonal decline in international sales of its crude and petroleum products, according to the International Energy Agency.

The nation earned $11.8 billion from exports of its oil and fuel in June, down more than 45% from a year earlier, "reflecting the continuing bite of sanctions," the IEA said in its monthly market report.

Oil-money flows are a key source of revenue for Russia's budget, strained by massive spendings amid the war in Ukraine. Western countries and their allies have imposed several waves of energy sanctions against Russia in a move to curb the flows, thus limiting the Kremlin's ability to fund its military activities.

The sanctions have effectively closed most of the European market for Russian oil producers. But Moscow has been able to redirect its barrels to new clients, mainly in India, China and Turkey, mitigating the effects of western restrictions.



The drop in revenue last month came as Russian oil exports fell to 7.3 million barrels per day, the lowest level in at least 14 months, the agency's historic data shows. "Known loadings eased for many destinations including China and India," according to the report.

With demand for Russian crude relatively robust, the oil-export decline could be partly a result of seasonal repairs at the Baltic port of Primorsk, according to historic data gathered by Bloomberg. Summer maintenance at some oil fields as well as rebounding domestic oil processing were also factors behind the lower overseas shipments, the IEA said.

The dip in exports supported the international price of Russian barrels, according to the report. The discount of the nation's main Urals blend to Brent narrowed by some $3 per barrel in June, yet the average price for seaborne Russian oil exports remained below the western price-cap, at $55.62 per

barrel, IEA data shows. The IEA estimates are for the so-called free-on-board, or FOB, price, which excludes shipping and insurance costs.
Urals crude breached the cap this week, driven by narrowing discounts and a rebound in the price of Brent.
IEA estimates Russia's June crude production at 9.45 million barrels per day, which means the nation complied with its pledge to cut output by 500,000 barrels per day from the February baseline of 9.949 million barrels per day. The agency expects average oil output this year at 10.87 million barrels per day.
Russia's most recent pledge to cut oil exports by 500,000 barrels per day in August from a yet unannounced baseline will not have any additional impact on its production, according to the IEA.
READ: Russia Finally Cuts Crude Exports, at Most Opportune Moment
"We assume there will not be a corresponding reduction to production on expectations that higher domestic refinery throughput will offset the anticipated drop in oil shipments," the agency said.

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US NGL Output Surge Is Weighing on Propane Prices, IEA Says
2023-07-13 08:00:00.2 GMT
By Rachel Graham
(Bloomberg) -- Surging output of natural gas liquids in the US has driven propane to the point that it's competitive with ethane, the IEA said in its monthly Oil Market Report.
* European propane assessed at $420/ton in early July, equivalent to $35/bbl
* The expansion of China's petrochemical industry is also weighing on LPG and naphtha pricing
* Separately, naphtha's discount to gasoline has ballooned

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China Petchem Surge Risks Plant Shutdowns Elsewhere, IEA Says
2023-07-13 08:00:00.29 GMT
By Sherry Su
(Bloomberg) -- The ramp-up of new petrochemicals plants in China is piling pressure on already oversupplied global chemicals markets, risking the closure of some facilities elsewhere, the IEA said in its monthly market report.
* "Without an abrupt change in course, the prospect of large-scale permanent shutdowns is coming into increasingly sharp focus"
* China's intake of petchem feedstocks is now rocketing after Covid-zero restrictions were lifted late last year
* Meanwhile, sluggish manufacturing performance globally suggests demand won't rise enough to accommodate all new capacity
** "Margins in major petrochemical centers have already collapsed, in some places to unsustainable levels, and there may be more pain to come"
* Petrochemical producers across the world are now forced to cut output
** European naphtha use collapsed by 28% y/y, down 330k b/d, in 4Q; Asian demand fell by 12%, or about 400k b/d
* Apparent Chinese demand for major petrochemical feedstocks, such as naphtha and LPG/ethane, lagged the pace of capacity additions in 2020-2021, indicating that new plants were being underutilized
** Naphtha, LPG and ethane account for 1.5m b/d, or 74%, of the total projected 2.1m b/d 2019-2023 increase
** Much of this new feedstock demand is displacing imports of polymers and synthetic fibers
* Other petchem exporters like Saudi Arabia and Iran have seen shipments to China drop substantially in last two years
* READ (July 9): A Glut of Made-in-China Plastic Will Dent Oil's Growth Machine

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IEA Raises Refining-Runs Estimate on Russia, Plant Startups
2023-07-13 08:00:00.7 GMT
By Rachel Graham
(Bloomberg) -- The IEA raised its forecast for global crude throughput this year by 130k b/d due to capacity expansions and an improved outlook for Russian runs.
* Throughput is forecast at 82.5m b/d, about 100k b/d above 2019 levels, according to the IEA's monthly Oil Market Report
** The startup of Oman's Duqm refinery and the third train at Kuwait's Al-Zour plant cited among expansions
** China and India are also running at records
* For 2024, growth in crude runs starts to slow, partly due to increased competition from biofuels and NGLs
** With "increased refinery capacity in Nigeria, Oman and Kuwait, and within the restraints of OPEC+ production policy, refineries elsewhere will be limited by available crude supply and a projected slowdown in global demand growth"
** Crude throughput in 2024 forecast at 83.5m b/d
** Throughput in OECD regions to decline, while activity in the Middle East, China and other parts of Asia will increase
* IEA also says Nigeria's decision to scrap gasoline subsidies looks to be curtailing its import demand; that will hit European refiners who optimize their gasoline pool blending requirements by sending about 20% of exports to the West African nation

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West African Crude Prices Gained From Robust Asia Demand: IEA
2023-07-13 08:00:00.18 GMT
By Bill Lehane
(Bloomberg) -- West African crude prices gained ground last month despite a surplus of sweet grades in the Atlantic Basin, due to robust demand in Asia, the IEA said in a monthly oil market report.

* Post-maintenance season buying picked-up, with refiners seeking optimal grades in response to strong middle distillate cracks; freight rates also eased
* Forcados added 75c/bbl m/m against North Sea Dated to a $1.41/bbl premium
* Qua Iboe increased by 65c/bbl to +$1.08/bbl
* Brass River and Bonny Light had only marginal increases of around 26c/bbl m/m against North Sea Dated, reflecting their higher naphtha content
* Bonny Light reached a premium of $0.64/bbl, while Brass River narrowed its discount to -$0.33/bbl
* Angolan Girassol premiums increased by 24c/bbl to $1.57/bbl while Cabinda premiums softened by 72c/bbl to $1.22/bbl

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https://www.rudaw.net/english/kurdistan/120720232

Turkey supports resumption of Kurdistan oil exports: Erdogan

2 hours ago

Karwan Faidhi Dri@KarwanFaidhiDri

n speaking during a press conference in Vilnius on July 12, 2023. Photo: AFP

Also in Kurdistan

ERBIL, Kurdistan Region - Turkish President Recep Tayyip Erdogan on Wednesday said that the suspension of Kurdistan Region's oil exports is because of problems between Baghdad and Erbil, and Turkey takes no issue with the exports.

"We do not have an issue in receiving oil from Iraq. This issue is sourced from tensions between the federal government of Iraq and northern Iraq. My relevant friends are holding meetings in this regard," Erdogan told Rudaw's Zinar Shino during a press conference in Vilnius.

He said that Ankara is waiting for Baghdad and Erbil to resolve their internal matters, and then Turkey will act.

"We endorse the opening of pipelines because it is a win-win deal. Let them win and let us win too," he added.

Turkey stopped the flow of Kurdish oil through the Iraq-Turkey pipeline after a Paris arbitration court on March 23 ruled in favor of Baghdad, saying Ankara had breached a 1973 pipeline agreement when it allowed the Kurdistan Region to begin independent oil exports in 2014.

The International Chamber of Commerce (ICC) ordered Turkey to pay a penalty of $1.5 billion in damages to Baghdad for allowing the Kurdistan Regional Government (KRG) to independently export its oil between 2014 and 2018.

There have been several meetings between Turkish, Iraqi and Kurdish officials since the court ruling, but exports are still halted. Around 400,000 barrels a day were being exported by Erbil through Ankara, in addition to some 75,000 barrels of Kirkuk oil daily through the same pipeline.

Erbil and Baghdad reached an agreement in early April to resume the exports but Turkey's presidential elections last month delayed the process. Iraqi and Kurdish officials have cited Turkish officials saying that the delay is due to damage caused to the pipeline during February's devastating earthquakes.

The KRG is heavily reliant on oil revenues and an inability to sell its crude has severely impacted its economy. Erbil has lost billions of dollars since the exports were halted.

Iraq passed its highly-contentious federal budget in June after months of discussions. Article 14 was among the most disputed in the bill, detailing the management of the Kurdistan Region's oil income.

The budget law obliges the KRG to sell 400,000 barrels of crude oil through Iraq's national oil marketing body and if the suspension continues, Iraq will take Kurdish oil for its internal use.

Updated at 8:28 pm

https://www.rudaw.net/english/kurdistan/14072023

Kurdistan presidency in ‘constant’ contact with Turkey over oil exports

23 hours ago Azhi Rasul@AzhiYR

Fawzi Hariri, Kurdistan Region Presidency's chief of staff speaking to Rudaw on July 14, 2023. Photo: Rudaw

ERBIL, Kurdistan Region - The Kurdistan Region presidency is in constant contact with Turkey to resume oil exports, the chief of staff of the presidency told Rudaw on Friday.

“There are constant contacts [with Turkey],” chief of staff Fawzi Hariri told Rudaw’s Bakhtiyar Qadir in Erbil about efforts to resume oil exports

Turkey stopped the flow of Kurdish oil through the Iraq-Turkey pipeline in March after a Paris arbitration court ruled in favor of Baghdad against Ankara for allowing the independent export of Kurdistan Region’s oil, in breach of a 1973 agreement. The halt has cost the Kurdistan Region billions of dollars.

On Wednesday, Turkish President Recep Tayyip Erdogan said that his country does not have any issue with the resumption of the Region’s oil exports and that the delay is caused by tensions between the federal government and the Kurdistan Regional Government (KRG). He said that Ankara is waiting for Baghdad and Erbil to resolve their internal matters, and then Turkey will act.

Erbil and Baghdad reached an agreement in early April to resume the exports but Turkey’s presidential elections in May delayed the process. Iraqi and Kurdish officials have cited Turkish officials saying that damage caused to the pipeline during February’s devastating earthquakes has also caused a delay.

Kurdistan Region parliamentary elections

Hariri also commented on Kurdistan Region’s delayed parliamentary elections.

The presidency this week asked Iraq’s electoral commission to supervise the Region’s parliamentary elections and hold the vote this year, suggesting it could be scheduled in November or simultaneously with Iraqi provincial elections a month later.

Hariri said that they have been holding meetings and discussions with the electoral body and UN representatives about when the vote can be held.

“We are expecting to receive a reply next week… to know whether they can fulfill our request,” Hariri said.

He noted that they are under time pressure since the electoral commission is coming to the end of its term. “It is worth noting that on January 7, 2024, the commission’s term ends,” Hariri said. After that date the Iraqi parliament will need to elect a new commission and this will add further complications.

Iraq’s electoral commission was asked to oversee the Kurdistan region’s parliamentary elections after a federal court ruled in May that the Region’s parliament’s decision to extend its term by another year and delay elections was unconstitutional. Because of that ruling, all decisions and laws issued by the Kurdish parliament after its legal deadline had passed were voided, including a controversial vote to reactivate the regional electoral body.

The delay in the parliament was caused by disagreement between the political parties in the Region over the electoral law, seats reserved for minorities, and the reactivation of the Kurdistan Region’s Independent High Electoral Commission.

In March, prior to the federal court ruling, Kurdistan Region President Nechirvan Barzani set November 18, 2023, for parliamentary elections, a year after they were due to be held.

Iraq’s electoral commission is currently tasked with preparing for the provincial elections to be held on December 18, and the head of the commission has said that it would not be able to hold the Kurdish parliamentary elections at the same time.

https://libyaobserver.ly/news/haftar-demands-new-mechanism-distributing-state-revenues-warns-escalate-if-his-calls-are-not

Haftar demands new mechanism for distributing state revenues, warns to escalate if his calls are not met

BY SAFAALHARATHY TUE, 04/07/2023 - 18:39

Rogue military commander Khalifa Haftar has demanded that the mechanism for distributing the country's wealth and oil revenues be reconsidered, threatening to take action if a plan in this regard is not ready by August.

Addressing an audience of military and security figures on Monday, Haftar demanded that a high committee be formed to arrange a financial audit that distributes the revenues equitably.

In case of any delay in establishing the relevant committee, "the Libyan people will be on time to claim their legitimate right for wealth," he said.

He noted what he claimed were violations in the documentary credits committed by the Tripoli-based Central Bank of Libya (CBL).

"The documentary credits for 2022 were distributed to 1,646 companies; The eastern region's share was 7% percent, while the southern region received only 2% percent of these credits."

The 80-year-old warlord said the Administrative Control and the Audit Bureau report indicated manipulation with more than 200 billion dinars.

"There is an ever more pressing need for fair distribution of oil revenues amid the current adverse economic situation in the country, Haftar said, adding that Dbeibah's government spent 122 billion dinars out of the 135 billion of oil revenues.

He claimed to receive "hundreds of memorandums from different regions demanding the formation of a supreme committee for financial arrangements to distribute revenues fairly among the municipalities.

He expressed dissatisfaction with US Ambassador Richard Norland for his remarks on the distribution of oil revenues.

Addressing the foreign diplomatic missions, Haftar called on them to refrain from interfering in Libyan affairs and "not to cross the lines."

"You are the ones who created the crisis and sowed discord among the Libyans."

Haftar said that the presidential and parliamentary elections represent the solution to Libya's crisis, as he demanded the exit of all foreign forces and mercenaries from Libya in implementation of the Security Council resolutions and the agreements of the Joint Military Committee (5 + 5)

https://libyaobserver.ly/news/new-oil-crisis-looming-rival-pm-threatens-shut-down-oil-sites-east

New oil crisis looming as rival PM threatens to shut down oil sites in the east

BY SAFAALHARATHY SUN, 25/06/2023 - 11:46

Osama Hammad, who is heading the rival government in the east, warned on Saturday to take action and halt oil and gas operations in the main oil sites east of the country.

Hammad accused the National Oil Corporation (NOC) of siding with the UN- recognized Government of National Unity based in Tripoli and giving it access to "seize" $16 billion in oil revenues.

He warned to halt export operations and declare force majeure in response.

Hammad's government said it would "resort to the judiciary to appoint a judicial guard" over the seized funds to stop the ongoing tampering.

"The situation will remain unchanged until completing the relevant legal and financial procedures, which the committee formed by the House of Representatives should reorganize and implement under the supervision of the NOC's chief," a statement by the east-based government said.

Hammad said his administration would withhold development expenses without prejudice to the salary item or the service sector.

His government called on the UN Support Mission in Libya to undertake its tasks without bias and "clarify all that has been wasted from the people's money."

It may be worth noting that the Benghazi Court of Appeal had earlier rejected the NOC's appeal against the parallel government's decision to seize oil revenues and upheld its procedures for confiscating the NOC's accounts, issued on January 25, 2023.

TAGS: OIL SHUT DOWN EAST-BASED GOVERNMENT OSAMA HAMMAD

07/14/2023 05:49:29 [BN] Bloomberg News

OIL DEMAND MONITOR: Usage Outlook Mixed But Curbs Support Market

- **Demand path unclear; IEA cuts growth view, EIA ditches surplus**
- **OPEC+ output curbs set to tighten market as year unfolds**

By John Deane

(Bloomberg) –– While the outlook for oil demand levels around the world remains uncertain, output curbs being pursued by the OPEC+ alliance of producing countries look set to tighten the market through the rest of the year.

Saudi Arabia said earlier this month that it would prolong a unilateral million barrel–a–day supply cut into August, while Russia pledged to reduce its exports, part of a continuing effort to curb output and balance markets amid a faltering global economy. Flows of Russian crude have started to show signs of falling, more than four months after the country was due to slash production.

Those moves from the biggest producers in the OPEC+ alliance have helped to buttress oil prices, even as traders continue to fret over the potential impact on demand from high interest rates in major economies around the world and China's stuttering economic recovery.

Views on the trajectory for demand remain diverse. The market is likely to see large oil–supply deficits this quarter, with global demand reaching an all–time high in August, Standard Chartered analysts including Emily Ashford and Paul Horsnell said in a report this week. Shortfalls of 1 million barrels a day in June and July will balloon to 2.8 million in August and 2.4 million in September, they said, with demand as well as output cuts driving the tightening.

In its latest monthly oil market report published on Thursday, the Paris–based International Energy Agency said that global fuel consumption will increase by 2.2 million barrels a day, or about 2%, in 2023. That, however, was a cut of about 220,000 barrels from last month's forecast, and the first time the adviser to consuming nations had reduced its growth forecast this year.

"World oil demand is coming under pressure from the challenging economic environment, not least because of the dramatic tightening of monetary policy," the IEA cautioned. "Demand in the OECD, and Europe in particular, is languishing amid a grinding slowdown in industrial activity."

Demand nonetheless remains on track to hit record levels later this year, draining inventories substantially in the second half, the agency said.

WATCH: Global oil demand isn't expected to grow as fast this year as previously thought due to the faltering economies of developed nations, according to the International Energy Agency. Source: Bloomberg

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

The Vienna-based Organization of Petroleum Exporting Countries predicted an even tighter global oil market next year, as the group anticipates a much bigger demand increase than other major forecasters.

World oil consumption will climb by 2.2 million barrels a day next year, the organization said on Thursday in its first detailed assessment of 2024. That increase would outstrip the projected boost in supply from outside the cartel, bolstering the world's daily appetite for OPEC's crude and potentially allowing the group to ease its recent production constraints.

The world will consume more oil than it produces this year, the US Energy Information Administration said this week, reversing earlier forecasts for a surplus. Global supply will be about 101 million barrels a day, just short of demand, the EIA said, with consumption seen a little higher thanks to China's economic stimulus efforts.

The global demand outlook is complex, with wide variations in individual countries' economic prospects and in usage of different fuels. Individual data sets often provide contradictory indications of where demand is headed.

China's crude oil imports, for example, jumped to a three-year high on a daily basis last month as refiners in the biggest importer ramped up operations. Yet the country's broader exports slumped in dollar terms in June from a year earlier, its customs administration said, with a darkening global growth outlook and geopolitical tensions making a reprieve unlikely anytime soon. The nation signaled more economic support measures are imminent after authorities took a small step toward supporting the ailing property market.

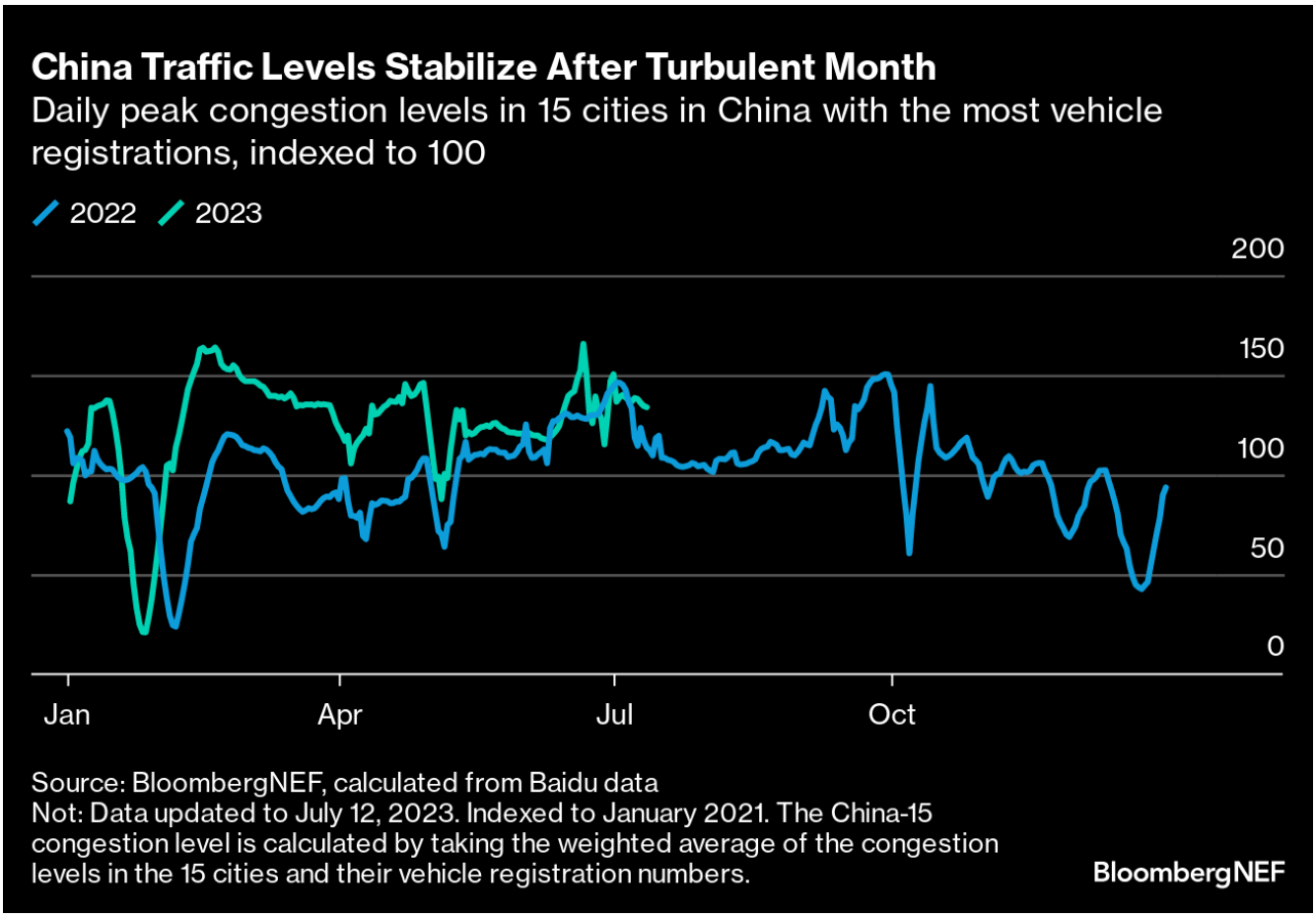
China's Economy Is Slowing. Here's Why That Matters: QuickTake

In the US, gasoline demand dropped in the latest week, reflecting a pullback after the Independence Day holiday that was also reflected in road congestion data. The four-week average also slipped. Some of the nation's refineries, though, were running the hardest in a year as many plants returned units to operation after unplanned outages. In the Midwest runs were the highest since July 2021, which contributed to a draw at the storage hub of Cushing.

In India, consumption of most fuels gained in June on a year-on-year basis, while slipping back from the previous month, according to data from the oil ministry's Petroleum Planning & Analysis Cell.

In the skies, OAG Aviation sees global airline seat capacity continuing to rise for the next four weeks, before starting to fall in line with normal seasonal trends in mid-August, with the peak expected to be just 1.4% short of the same week in 2019. London's Heathrow Airport handled a little over seven million passengers in June, just a few percentage points shy of pre-pandemic levels.

On the roads, four of 13 major world cities – London, Rome, Paris and Berlin – showed more intense traffic congestion on Monday compared with 2019, according to BNEF seven-day moving average calculations based on TomTom data.



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

Demand Measure	Location	%vs 2022	% vs 2021	% vs 2020	% vs 2019	% m/m	Freq	Latest Date	Latest Value	Source
Gasoline product supplied	US	+8.6	−5.7	+1.2	−10	−4.8	w	July 7	8.76m b/d	EIA
Distillates product supplied	US	−12	−6.2	−20	−16	−17	w	July 7	2.97m b/d	EIA
Jet fuel product supplied	US	+13	−1.2	+21	−15	−0.3	w	July 7	1.54m b/d	EIA
Total oil products supplied	US	−0.1	−3.1	+1.2	−12	−8.4	w	July 7	18.7m b/d	EIA
Gasoline (petrol) avg sales per filling station	UK	+9.1	+5.3	+36	+0.5	+1.3	m	Week to July 2	7,225 liters/d	BEIS
Diesel avg sales per station	UK	−0.4	−6.3	+10	−13	+6.3	m	Week to July 2	9,088 liters/d	BEIS
Total road fuels sales per station	UK	+3.6	−1.5	+21	−7.3	+4	m	Week to July 2	16,313 liters/d	BEIS
Diesel sales	India	+3.1				−3.7	m	June	7.91m tons	PPAC
Gasoline sales	India	+6.2				−5.8	m	June	3.15m tons	PPAC
Jet fuel sales	India	+9.2				−4.2	m	June	642k tons	PPAC
LPG sales	India	+0.3				−4.9	m	June	2.23m tons	PPAC
Naphtha sales	India	+3				−15	m	June	976k tons	PPAC
Total oil product sales	India	+4.3				−3.7	m	June	19.3m tons	PPAC
Gasoline deliveries	Spain	+7.7				+6.6	m	June	565.7k m3	Exolum
Diesel (and heating oil) deliveries	Spain	+1.7				+1.3	m	June	2,271k m3	Exolum
Jet fuel deliveries	Spain	+8				+3.6	m	June	633k m3	Exolum
Total oil products deliveries	Spain	+3.6				+2.6	m	June	3,470k m3	Exolum
Road fuel sales	France	−4.4				+9.1	m	May	4.06m m3	UFIP
Gasoline sales	France	+5.4					m	May	n/a	UFIP
Road diesel sales	France	−8					m	May	n/a	UFIP
Jet fuel sales	France	+9.6				+19	m	May	658k m3	UFIP
All petroleum products sales	France	−1.2				+10	m	May	4.54m tons	UFIP
All vehicles traffic	Italy	unch.				+5	m	June	n/a	Anas
Heavy vehicle traffic	Italy	−1				−2	m	June	n/a	Anas
Gasoline sales	Italy	+7.1			+15	+13	m	May	710k tons	Energy Ministry
Transport diesel sales	Italy	+1			+1	+12	m	May	2.06m tons	Energy Ministry
Diesel/gasoil sales	Italy	+0.8			+0.4	+14	m	May	2.28n tons	Energy Ministry
LPG sales	Itay	+9.5			−4.7	+3	m	May	243k tons	Energy Ministry

Jet fuel sales	Italy	+14		−12	+6.1	m	May	381k tons	Energy Ministry	
Total oil product sales	Italy	+1.4		−1.9	+14	m	May	4.53m tons	Energy Ministry	
Gasoline consumption	Portugal	+18	+40	+79	+18	+22	m	May	110.5k tons	ENSE
Diesel consumption	Portugal	+10	+26	+41	+10	+17	m	May	478k tons	ENSE
Jet fuel consumption	Portugal	+15	+232	+1,224	+6.6	+4.3	m	May	154k tons	ENSE
% change in toll roads kms travelled	France	+4.1			−0.1		m	June	n/a	Mundys
% change in toll roads kms travelled	Italy	+1.3			+1.8		m	June	n/a	Mundys
% change in toll roads kms travelled	Spain	+0.6			−3.2		m	June	n/a	Mundys
% change in toll roads kms travelled	Brazil	+5.7			+9.3		m	June	n/a	Mundys
% change in toll roads kms travelled	Chile	−3.7			+4.4		m	June	n/a	Mundys
% change in toll roads kms travelled	Mexico	+4.6			+15.3		m	June	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	July 10	July 3	June 26	June 19	June 12	June 5	May 29	May 22	May 15	May 8	May 1	Apr 24
Congestion	Tokyo	89	88	86	91	89	88	90	85	85	67	83	85
Congestion	Taipei	86	93	77	94	90	94	87	86	86	89	80	86
Congestion	Jakarta	74	47	66	69	67	57	69	60	69	69	26	35
Congestion	Mumbai	64	58	53	49	47	44	44	42	43	45	49	50
Congestion	New York	72	80	97	99	92	104	86	109	111	98	97	94
Congestion	Los Angeles	69	81	87	86	86	88	77	93	98	90	95	95
Congestion	London	109	114	118	121	120	103	115	115	122	100	107	122
Congestion	Rome	107	76	105	121	114	99	124	121	122	123	86	110
Congestion	Madrid	65	72	79	83	90	88	90	84	81	77	79	96
Congestion	Paris	103	109	121	122	121	126	98	85	113	74	78	95
Congestion	Berlin	111	108	114	108	106	110	96	99	118	111	94	110
Congestion	Mexico City	67	69	67	70	75	75	76	81	74	73	71	79
Congestion	Sao Paulo	65	73	76	93	67	84	80	80	87	79	72	71

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

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

Air Travel:

Measure	Location	vs 2022	vs 2021	vs 2020	vs 2019	m/m	w/w	Freq.	Latest Date	Latest Value	Source
		changes shown as %									

All flights	Worldwide	+8.5	+22	+74	+14	−0.1	+8.3	d	July 10	231,639	Flightradar24
Commercial flights	Worldwide	+20	+39	+119	+4.3	+2.1	+4.4	d	July 10	127,593	Flightradar24
Seat capacity per week	Worldwide	+13	+45	+115	−2.6		+1.3	w	July 10 week	115.8m seats	OAG
Air traffic (flights)	Europe				−6.8	+4.8	unch.	d	July 10	33,658	Eurocontrol
Airline passenger throughput (7−day avg)	US	+9	+23	+263	−4	−2	−8	w	July 9	2.42m	TSA
Air passenger traffic per month	China	+327	+1.4	+100	−5.1	+2.8		m	May	51.7m	CAAC
Heathrow airport passengers	UK	+18	+633	+1,911	−2.9	+4.6		m	June	7.04m	Heathrow
Rome % change in passengers carried	Italy	+26			−11			m	June	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	+0.1%	+3.5%	−4.5%	+0.4%	July 7	16.66m b/d	EIA
Utilization	US	−1.2	+1.9	−1	unch.	July 7	93.7%	EIA
Utilization	US Gulf	−5	+1.2	−3.4	−2.6	July 7	93.1%	EIA
Utilization	US East	−27	−13	+2.3	−17	July 7	71.8%	EIA
Utilization	US Midwest	+4.8	+1.9	+0.8	+5.7	July 7	98.6%	EIA
Utilization (indep. refs)	Shandong, China	−12	−3.6	unch.	−1.9	July 14	60.9%	Oilchem

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

Previous versions:

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- Saudi Oil Cuts Are Quietly Starting to Bite Part of the Market
- Fed's Tougher Stance on Rates Could Risk Oil's 'Hard–Landing'

––With assistance from Julian Lee, Prejula Prem and Grant Smith.

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This story was produced with the assistance of Bloomberg Automation.

FORECAST OF ATLANTIC SEASONAL HURRICANE ACTIVITY AND LANDFALL STRIKE PROBABILITY FOR 2023

We have increased our forecast and now call for an above-average Atlantic basin hurricane season in 2023, although uncertainty with this outlook is larger than normal. While we continue to anticipate a robust El Niño for the peak of the Atlantic hurricane season, most of the tropical and subtropical Atlantic now has record warm sea surface temperatures. El Niño increases vertical wind shear in the Caribbean and tropical Atlantic, but the extreme anomalous warmth in the tropical and subtropical Atlantic may counteract some of the typical El Niño-driven increase in vertical wind shear. The probability of U.S. major hurricane landfall is estimated to be above the long-period average. As is the case with all hurricane seasons, coastal residents are reminded that it only takes one hurricane making landfall to make it an active season for them. They should prepare the same for every season, regardless of how much activity is predicted.

(as of 6 July 2023)

By Philip J. Klotzbach[1], Michael M. Bell[2] and Alexander J. DesRosiers[3]
In Memory of William M. Gray[4]

This discussion as well as past forecasts and verifications are available online at http://tropical.colostate.edu

Jennifer Dimas, Colorado State University media representative, is coordinating media inquiries into this forecast. She can be reached at 970-491-1543 or Jennifer.Dimas@colostate.edu

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[3] Graduate Research Assistant
[4] Professor Emeritus

ATLANTIC BASIN SEASONAL HURRICANE FORECAST FOR 2023

Forecast Parameter and 1991-2020 Average (in parentheses)	Issue Date 13 April 2023	Issue Date 1 June 2023	Issue Date 6 July 2023	Observed Thru 5 July 2023	Remainder of Season Forecast
Named Storms (NS) (14.4)	13	15	18	4	14
Named Storm Days (NSD) (69.4)	55	60	90	11.50	78.50
Hurricanes (H) (7.2)	6	7	9	0	9
Hurricane Days (HD) (27.0)	25	30	35	0	35
Major Hurricanes (MH) (3.2)	2	3	4	0	4
Major Hurricane Days (MHD) (7.4)	5	7	9	0	9
Accumulated Cyclone Energy (ACE) (123)	100	125	160	10	150
ACE West of 60°W (73)	55	70	82	4	78
Net Tropical Cyclone Activity (NTC) (135%)	105	135	170	11	159

*Forecast includes the unnamed subtropical storm in January and Tropical Storms Arlene, Bret and Cindy in June.

PROBABILITIES FOR AT LEAST ONE MAJOR (CATEGORY 3-4-5) HURRICANE LANDFALL ON EACH OF THE FOLLOWING COASTAL AREAS (AFTER 5 JULY):

1) Entire continental U.S. coastline - 50% (full-season average from 1880–2020 is 43%)

2) U.S. East Coast Including Peninsula Florida (south and east of Cedar Key, Florida) - 25% (full-season average from 1880–2020 is 21%)

3) Gulf Coast from the Florida Panhandle (west and north of Cedar Key, Florida) westward to Brownsville - 32% (full-season average from 1880–2020 is 27%)

PROBABILITY FOR AT LEAST ONE MAJOR (CATEGORY 3-4-5) HURRICANE TRACKING THROUGH THE CARIBBEAN (10-20°N, 88-60°W)

1) 54% (full-season average from 1880–2020 is 47%)

ABSTRACT

Information obtained through June indicates that the 2023 Atlantic hurricane season will have activity above the 1991–2020 average. We estimate that 2023 will have a total of 18 named storms (average is 14.4), 90 named storm days (average is 69.4), 9 hurricanes (average is 7.2), 35 hurricane days (average is 27.0), 4 major (Category 3-4-5) hurricanes (average is 3.2) and 9 major hurricane days (average is 7.4). These numbers include the four named storms that have formed already this year (January subtropical storm, Arlene, Bret and Cindy). The probability of U.S. major hurricane landfall is now estimated to be above the long-period average. We predict Atlantic basin Accumulated Cyclone Energy (ACE) and Net Tropical Cyclone (NTC) activity in 2023 to be approximately 115 percent of their 1991–2020 average.

This forecast is based on an extended-range early July statistical prediction scheme that was developed using ~40 years of past data. Analog predictors are also utilized. We are also including statistical/dynamical models based off of 25–40 years of past data from the European Centre for Medium Range Weather Forecasts, the UK Met Office, the Japan Meteorological Agency and the Centro Euro-Mediterraneo sui Cambiamenti Climatici model as four additional forecast guidance tools. While there remains considerable spread in our model guidance this year, the model guidance has continued to shift upwards towards a very active season, necessitating a significant increase in the forecast numbers with this update.

The tropical Pacific is currently characterized by El Niño conditions. However, the intensity of the El Niño for the remainder of the hurricane season remains unclear, although a moderate to strong event seems relatively likely. El Niño typically reduces Atlantic hurricane activity through increases in vertical wind shear.

However, sea surface temperatures in the eastern and central tropical Atlantic are now at record levels, so despite the high potential for an El Niño, the impacts on tropical Atlantic/Caribbean vertical wind shear may not be as strong as is typically experienced given the extremely warm Atlantic. The continued anomalous warming of the tropical and subtropical Atlantic is the primary reason for the increase in our forecast numbers with this update.

Coastal residents are reminded that it only takes one hurricane making landfall to make it an active season for them. They need to prepare the same for every season, regardless of how much activity is predicted.

The early July forecast has good long-term skill when evaluated in hindcast mode. The skill of CSU's forecast updates increases as the peak of the Atlantic hurricane season approaches. We also present probabilities of exceedance for hurricanes and Accumulated Cyclone Energy to give interested readers a better idea of the uncertainty associated with these forecasts.

Make-or-Break Decade for $196 Trillion Climate Challenge

By Nilushi Karunaratne

- Annual investment must almost triple from 2022 levels by 2030
- This could see power from renewables pass fossil fuels in 2027

The climate alarm bells are ringing loudly again.

The world's tropical rainforests are continuing to shrink, with the pace increasing last year, according to the latest update from the Word Resources Institute's Global Forest Review. The more than 4 million hectares of primary tropical rainforest burned or felled is roughly equal to the size of Switzerland, and this loss resulted in a similar level of carbon dioxide being released into the atmosphere as India's annual fossil-fuel emissions.

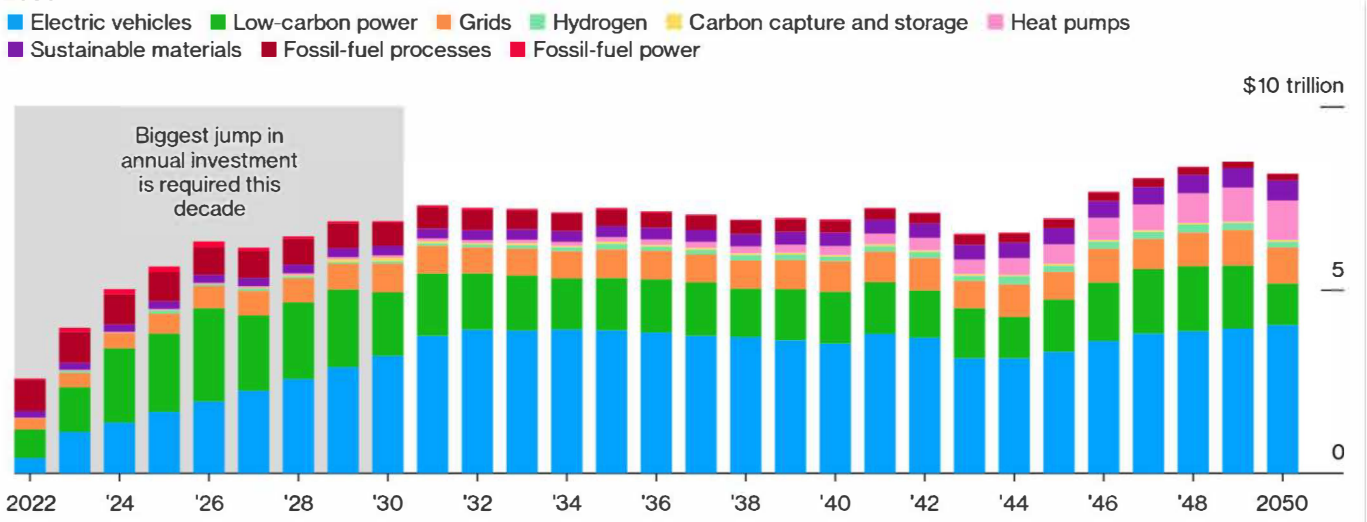
The continued erosion of these vital carbon sinks lays bare the lack of progress made since world leaders pledged to end deforestation at the COP26 climate summit almost two years ago. It's yet another reminder of the need to step up efforts to address global warming on all fronts: ambition, action and investment.

Looking at the money part of the equation, averting climate disaster could require almost $200 trillion be ploughed into global energy infrastructure through 2050, BloombergNEF estimates. That covers things like low-carbon power sources on the supply side and clean modes of road transportation on the demand side.

The key is ramping up spending this decade. Under

Net Zero Adds Up to a $196 Trillion Challenge

Electric vehicles and low-carbon power dominate the annual energy spending needed to reach net-zero emissions by 2050



Source: BloombergNEF. Note: Depicts the Net Zero Scenario from BNEF's New Energy Outlook, a pathway to net-zero emissions globally by 2050. 'Fossil-fuel processes' refers to upstream, midstream and downstream components of coal, oil and gas processes. Excludes demand-side fossil-fuel investment. Electric vehicles sales are counted as consumer durables, calculated by multiplying the outright cost of purchasing a vehicle by he number of EVs. Values have been normalized to 2021 real US dollars.

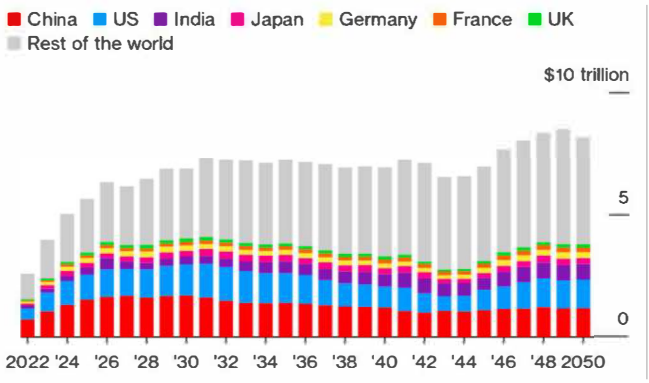
BNEF's Net Zero Scenario – a pathway to net-zero emissions by mid-century – annual investment needs to almost triple to $6.9 trillion by 2030. Once that hurdle is cleared, the trajectory is less steep from there, with funding peaking at $8.5 trillion just before net zero is reached.

The vast majority of the capital is seen being deployed in electric vehicles and clean power assets like wind and solar farms. Spending on grids is also vital to underpin growing electrification, with $21 trillion building a supersized 152-million-kilometer network by 2050 – double the length of the grid today and long enough to stretch all the way to the sun (web | terminal).

China and the US are viewed as the drivers of the energy transition. Together, they account for more than a third of the capital needed to keep global warming in check. After starting on the back foot, annual investment in the US must draw almost level with top spender China by 2050. The grants, loans and tax credits included in the Inflation Reduction Act could prove a crucial launchpad for the country to close the gap.

China and US Are Top Spenders

Their required energy investment to reach net zero is more than a third of the global total to 2050



Source: BloombergNEF. Note: Depicts BNEF's Net Zero Scenario, a pathway to net-zero emissions globally by 2050. Excludes demand-side fossil-fuel investment. Values have been normalized to 2021 real US dollars.

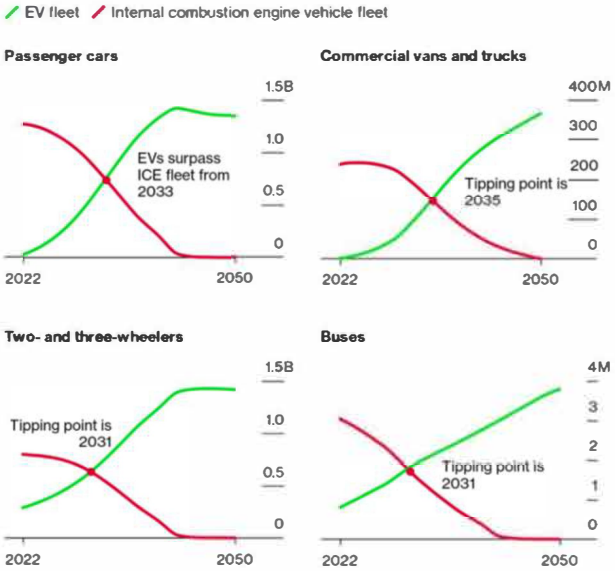
Unpacking the multitrillion-dollar conundrum

A $196 trillion price tag for a livable planet can seem rather abstract. If Warren Buffett and Mark Zuckerberg decided today to pool their fortunes and spend every dollar they have to fight climate change, they'd need to increase their net worth a 1,000-fold to meet the challenge.

But what does that amount of money mean in reality? The Net Zero Scenario envisages a $91.5 trillion investment opportunity in electric vehicles over the coming decades. That sees the number of passenger EVs on the world's roads overtake gasoline and diesel cars from 2033 and hit 1.3 billion by 2050 – a huge scale-up from less than 50 million today. It puts fossil-fuel-powered road transport in terminal decline, with

What $91.5 Trillion of Investment in Electric Vehicles Looks Like

Adoption surges across all vehicle types and sees the passenger car EV fleet overtakes gasoline and diesel guzzlers from 2033



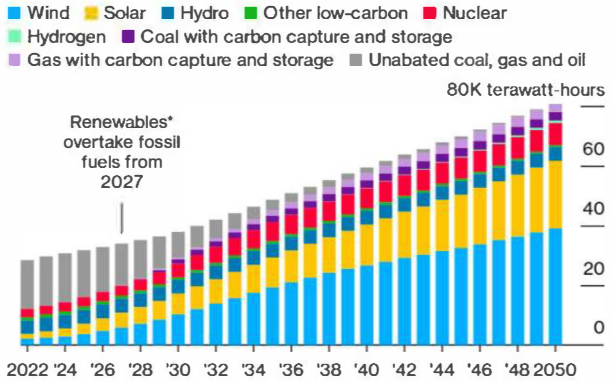
Source: BloombergNEF. Note: Depicts the Net Zero Scenario from BNEF's New Energy Outlook, a pathway to net-zero emissions globally by 2050. EVs include battery-electric and plug-in hybrid electric vehicles.

greener vehicles gaining an edge in everything from motorbikes to trucks in the next decade.

All those electric wheels will only be as clean as the power being used to charge them. Low-carbon power generation is the second-biggest expense in the Net Zero Scenario after EVs, with $46 trillion building a system where more than 75% of the world's electricity is produced by wind turbines and solar panels in 2050.

Wind and Solar Dominate a $46 Trillion Power System

Remaining consumption from road transport could account for over 20% of global oil demand in 2050



*Source: International Energy Agency, BloombergNEF. Note: Depicts the Net Zero Scenario from BNEF's New Energy Outlook, a pathway to net-zero emissions globally by 2050. 'Other low-carbon' includes bioenergy and geothermal. * 'Renewables' refers to solar, wind, hydro, bioenergy and geothermal.*

Spending in line with this net-zero pathway doesn't mean fossil fuels disappear completely. But their role diminishes significantly and rapidly, being eclipsed by renewable electricity is less than five years. The lingering gas and coal is largely paired with technology that captures their emissions.

Annual spending on low-carbon and fossil-fuel energy supply reached around parity last year. But to be on track for net zero, every dollar put towards fossil-fuel energy supply this decade needs to be matched with $3 of investment on the low-carbon side. That's not just in clean power generation, but also the underlying electricity grid, hydrogen production and carbon capture and storage.

The ratio must tip much further toward low-carbon energy supply over the coming decades, with BNEF estimating a 5-to-1 balance is necessary, on average, in the 2030s, rising to 10-to-1 in the 2040s.

The Targets of Supply- and Demand-Side Energy Spending

Energy supply	Energy demand
Low-carbon	
Power generation, including low-carbon sources like wind and abated fossil fuels such as gas with carbon capture and storage	Turning sequestered carbon into a valuable resource for the construction industry
Grid infrastructure	Sales of heat pumps
Green and blue hydrogen production, storage and transport	Investment in sustainable materials – in other words, recycling facilities for aluminum, cement, plastics and steel
Carbon capture and storage infrastructure	
Fossil-fuel-based:	
Unabated fossil-fuel-fired power generation	Developing large-scale redox flow batteries ("redox" refers to chemical reduction and oxidation) for long-duration energy storage
Fossil-fuel processes – the upstream, midstream and downstream components of coal, oil and gas processes	Capturing industrial CO2 emissions directly from flues to produce a carbon-negative cement replacement

Source: BloombergNEF

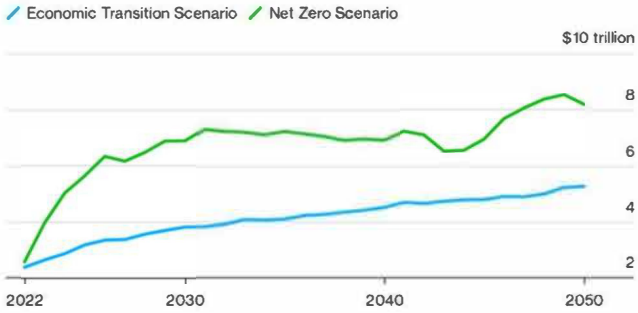
A decisive decade

If the energy transition were to be driven by the economic competitiveness of technologies alone with

no new concerted actions from policymakers – what BNEF calls its Economic Transition Scenario – the world risks falling $21 trillion short of a net-zero pathway by 2030. That gap could widen to $76 trillion by 2050.

A $76 Trillion Shortfall Through 2050

A dramatic scale-up in annual investment is needed to get on track for net-zero emissions



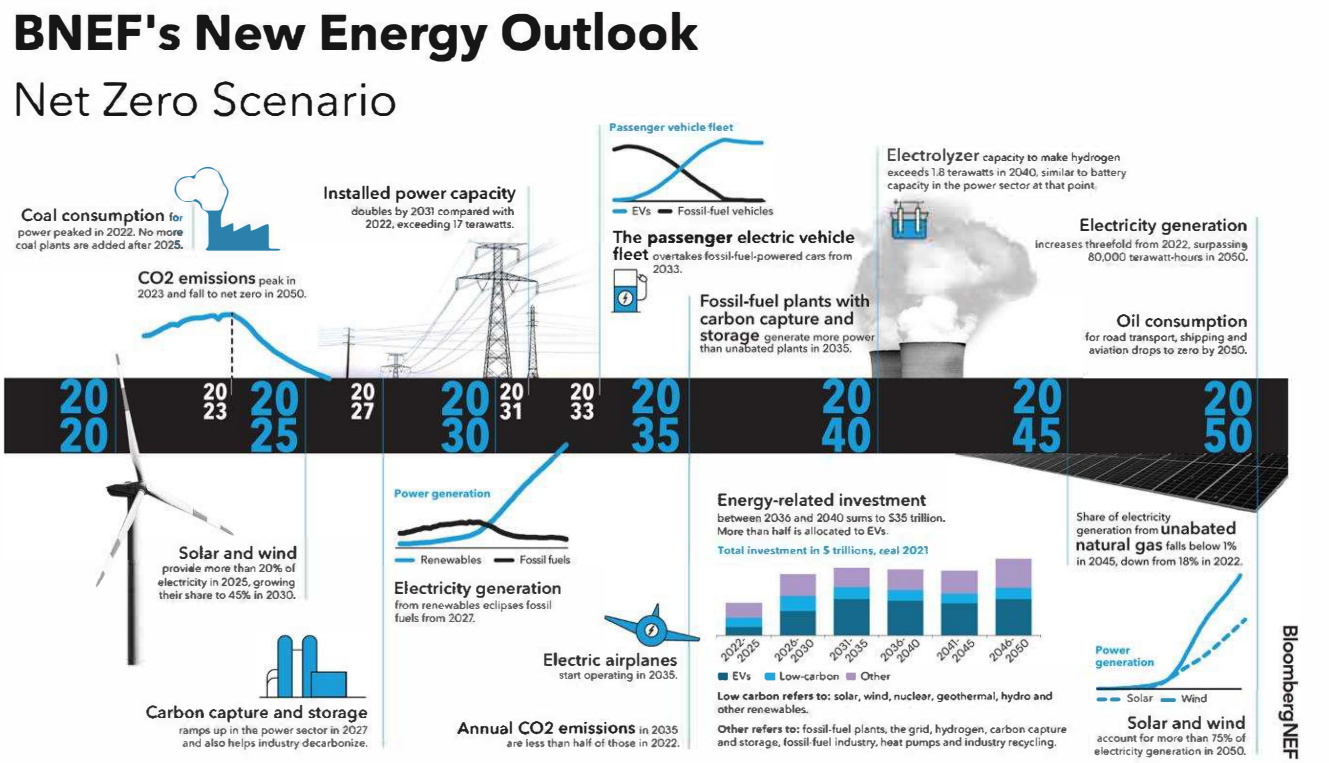
Source: BloombergNEF. Note: The Economic Transition Scenario reflects an energy transition driven by the economic competitiveness of key technologies and assumes no new policies are introduced. The Net Zero Scenario is a pathway to net-zero emissions globally by 2050.

The potential deficit is a call to action. With the tangible impacts of climate change becoming more real by day, the window to make a dent in global warming is closing. But there is still an opportunity for meaningful change. The magic number of $196 trillion isn't unachievable if governments, corporations and investors work together to create the conditions needed to step up investment this decade.

Read more and explore the underlying data:

- *New Energy Outlook: A Pathway to Net Zero* (web | terminal)
- *New Energy Outlook: Net Zero Investment* (web | terminal)
- A deeper dive into the energy transition by region:
  - *Europe* (web | terminal)
  - *China* (web | terminal)
  - *Australia* (web | terminal)

Explore the path to net zero:



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EU Needs to Invest an Extra €700 Billion a Year for Green Shift
2023-07-04 11:18:12.618 GMT

By John Ainger and Alberto Nardelli
(Bloomberg) -- The European Union must invest an additional €700 billion ($763 billion) a year if it's to green the economy and shut out cheap Russian fossil fuels, according to a draft report from the bloc's executive arm.
Most of that figure will have to be privately sourced, the European Commission said in the draft seen by Bloomberg News. The vast sum — significantly higher than that proposed by Commission President Ursula von der Leyen less than two years ago — underlines the escalating costs of reaching net zero goals.
"The green transition requires unprecedented investments," the commission said in its so-called Strategic Foresight report, which is still subject to change before publication Wednesday. "The full costs and consequences of the climate and biodiversity crisis are unknown."
The EU, targeting a 55% cut in emissions this decade, needs to boost spending on clean technologies amid growing competition from the US and China. The bloc must also ensure energy security as it weans itself off Russian gas, while tackling rising borrowing costs and huge debts built up by companies during the pandemic.
The EU has already earmarked €578 billion, almost a third of its multiannual budget, for climate-related action from 2021 to 2027. In November 2021 — before Russia's invasion of Ukraine triggered an energy crisis and runaway inflation — von der Leyen said an additional €470 billion a year would be needed. That figure is dwarfed by the commission's latest recommendation.
Given the limited resources of the EU's budget, the bulk of the new investment will have to come from the private sector, while member states must also tap their own funds, according to the report. It highlighted the risk of a subsidy race among nations, which would put a strain on the bloc's single market.
"The EU level of venture capital investment, although catching up with the US, still falls short," it said. "This results in a lower innovation rate and the potential of capital markets for financing the transitions remaining underdeveloped."
The commission produces the Strategic Foresight report every year to inform its multiannual programs.

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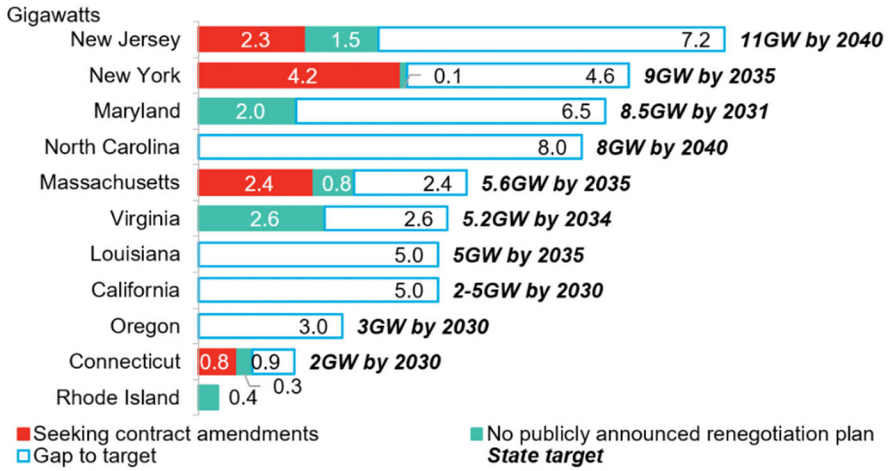
Offshore Wind Goals in US Are Imperiled by Deal Revisions: BNEF
2023-07-10 14:00:00.0 GMT

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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Energy: "the carbon-free system will be more expensive", warns Patrick Pouyanné (TotalEnergies)

While intermittent renewable electricity sources will have to take more and more place in the energy mix to get rid of fossil fuels, such a system will cost "more than today" to consumers, insisted Saturday the boss of TotalEnergies, Patrick Pouyanné. At issue: significant costs to ensure the flexibility of the network, both to store power when the wind or the sun is lacking, and to supply carbon-free energy to controllable gas plants, he argued. An alarming tone that contrasted with the optimism displayed by his interlocutor, the CEO of Engie, Catherine MacGregor.

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00:00/00:00

latribune.fr

08 Jul 2023, 18:23

 (Credits: Reuters)

During the economic meetings in Aix-en-Provence, this Saturday, July 8, the CEO of TotalEnergies, Patrick Pouyanné, did not only warn about the risks of hydrocarbon supply to Europe next winter. Faced with Luc Rémont (EDF) and Catherine MacGregor (Engie), he also said that a low-carbon energy system, made necessary by the fight against global warming, will cost "*more*" in the long term.

"When you take a complete system, unless you agree to keep a lot of fossils, it will cost more than today. [...] Don't tell people that because the sun is free, it's not going to be expensive, it's not true! [...] The system will be increasingly complex to manipulate," he said.

And for good reason, electricity produced from photovoltaic panels, just like that from wind turbines, will remain "*intermittent*", that is to say dependent on weather conditions, he recalled. In other words, in an energy mix where these sources will become the majority compared to the controllable (fossil, nuclear), it will be necessary to set up "*storage capacities*" of the current, in order to restore it when the means of production prove insufficient, for lack of sun or wind. However, "*we are far from* it," said Patrick Pouyanné, since no competitive technology today makes it possible to store electricity on a large scale.

LCOE or full system costs?

This ties in with the famous debate on the indicator to be used to measure the cost of each energy. Should we focus on the costs of energy sources alone, calculated among others by the LCOE ("levelized cost of energy produced", an indicator of the Lazard bank), or the full system costs involved in each new unit of energy production? One thing is certain: widely used to demonstrate the competitiveness of solar and wind, LCOE does not actually integrate the system costs associated with each technology, such as batteries, hydraulic storage, or the hydrogen loop. Nor those induced by the transmission and distribution network, which will have to be adapted if we change the production model.

It is for this reason that, in its calculation methods on the energy mix in 2050, the French electricity transmission system operator RTE examines costs in a *bottom-up* analysis including the generation, flexibility and network chain, and taking into account load rates, rather than the LCOE. And believes that these additional costs will be *"higher in scenarios with a very high share of renewable energy*".

"We do not invest in offshore wind in Europe at 50 euros per MWh!"

On Saturday, the chief executive of Engie, Catherine MacGregor, was much less pessimistic. "*In Spain* [where renewable energies are significant in the mix, editor's note], *over 135 days of the 1st half, spot prices were lower than those of the France*", proof that it is possible to achieve a "*low-carbon and cheap energy mix for the consumer*", she assured Patrick Pouyanné. Moreover, even if renewable energies increase instability in electricity networks, "gas *plants, running on carbon-free gas, will play a massive role* [to remedy it, editor's note]," she replied to the boss of TotalEnergies, who did not hesitate to call her "*Madame Soleil*".

Indeed, Engie's promise would be to fuel gas-fired combined-cycle power plants with low-carbon hydrogen in order to compensate for the intermittency of renewables, without relying on fossils.

But "*if you want to make electricity with hydrogen and biogas, it's expensive*!" immediately opposed the boss of TotalEnergies. Which also did not fail to tackle the conditions in which were won the last tenders on offshore wind by EDF, at less than 50 euros per megawatt hour (MWh). "*If you make an investment, you probably don't take 50 euros per MWh as a hypothesis, but probably much more. We do not invest in offshore wind in Europe at 50 euros per MWh, that's not true!* ", he assumed, under the tense laughter of Catherine MacGregor, who pointed the finger at the CEO of EDF, Luc Rémont.

For several months, several players in the sector have been denouncing prices that have been pulled downwards, due in particular to calls for tenders based almost solely on this criterion, at a time when European wind turbine manufacturers are facing massive losses, and fear Asian competition.

https://www.bbc.com/news/business-66153494

US climate envoy John Kerry criticises big oil for backtracking

- Published 20 hours ago

By Faisal Islam

Economics editor

The US climate envoy has criticised big oil firms who are now maintaining fossil fuel investments after promising cuts to meet climate change targets.

President Biden's net zero chief, John Kerry, was speaking after **Shell's chief executive told the BBC** last week about the need for future oil investments.

Energy firms have been criticised for backtracking on climate change pledges.

Senator Kerry told the BBC said that any changes to these promises were "moving in the wrong direction".

His comments came on the sidelines of a meeting of net zero financiers and philanthropists ahead of President Biden's meeting with King Charles in Windsor.

Mr Kerry said any backtracking was "unnecessary" and "dangerous".

"What we need are company chief executives, looking to the future and investing in that future and accelerating the transition to that future," he said.

"Look, in the last few days, we've had scientists say this is terrifying , we have scientists saying we are in uncharted territory."

Last week, Shell boss Wael Sawen told the BBC that cutting oil and gas production would be "dangerous and irresponsible".

He said the world still "desperately needs oil and gas" given that attempts to replace it with renewable energy were not happening fast enough.

Mr Sawen also said energy prices and bills could be pushed higher by rising demand from China and a cold winter.

However, international climate scientists say fossil fuel projects should be closed down, not expanded, and argue there can be no new projects if there is to be a chance of keeping global temperature rises under 1.5C.

IMAGE SOURCE,PHOTOSHOT

US Climate Envoy John Kerry (r) met with UK Energy Security and Net Zero Secretary Grant Shapps (l)

Earlier this month, **the head of the International Energy Agency, Fatih Birol, told the BBC** that if the world was serious about climate change then "we have to reduce the use of oil and gas significantly in the next years to come".

At the same event as Mr Kerry was speaking, the Energy Security and Net Zero Secretary, Grant Shapps, was broadly supportive of the Shell chief executive's stance, saying: "There always has to be a transition… but it doesn't just happen overnight, in fact it's idiotic to suggest you can.

"If you tried to, you simply impoverish people and tell people they can no longer drive and they can no longer heat their homes".

https://www.gov.uk/government/news/uk-and-us-to-rally-efforts-to-help-developing-nations-tackle-climate-change

Press release

UK and US to rally efforts to help developing nations tackle climate change

Energy Security Secretary Grant Shapps and US Special Presidential Envoy on Climate John Kerry convene Climate Finance Mobilisation Forum in Windsor.

From:

Department for Energy Security and Net Zero and **The Rt Hon Grant Shapps MP**

Published

10 July 2023

- Leading figures in finance and philanthropy demonstrate action in crucial drive to tackle climate change in developing economies
- Convened by the Energy Security Secretary Grant Shapps and US Special Presidential Envoy for Climate John Kerry, the Forum aims to catalyse efforts to unlock private capital
- His Majesty The King and President Biden will engage with the participants at Windsor Castle today following talks

Top financiers and philanthropists will come together in Windsor today (Monday 10 July) for a Climate Finance Mobilisation Forum to recognise and encourage efforts that increase support for emerging and developing economies to accelerate a net zero, resilient transition.

Organisations are encouraged to bring examples of recent and new activities that represent significant investments to drive climate action and harness the environmental, economic, security, and social benefits it brings - building momentum on implementation efforts that contribute to achieving the goals of the Paris Agreement.

Energy Security and Net Zero Secretary Grant Shapps and US Special Presidential Envoy for Climate John Kerry will host major financial players and philanthropists for the special

event, convened as part of President Biden's visit to the UK, before participants travel to Windsor Castle to speak to His Majesty The King and the President about the conclusions of the discussion.

It is estimated that by 2030 annual clean energy investment in these countries needs to expand by more than seven times, to above $1 trillion, in order to put the world on track to reach net-zero emissions by 2050. And that is for clean energy alone; additional investments are needed to reduce non-CO2 emissions, halt deforestation and reverse forest loss, and adapt and build resilience to climate change.

Energy Security Secretary Grant Shapps said:

Finance is the lifeblood of growing economies. Billions has been spent so far to accelerate the green transition already underway, and the UK is delivering its £11.6 billion of International Climate Finance to support countries around the world - but if we want to deliver real change, we must go further and do it together. The scale of this transition requires trillions in private investment in addition to the public funds we are spending.

Today is about uniting with our US allies and key enablers, using this world-leading expertise for the benefit of not just our own economies but those that will be most affected by climate change impacts – updating The King and President on what we're doing to set us all on a path to net zero and greater climate resilience by unlocking private investment.

Building on the US-UK Atlantic Declaration, today isn't just about cutting emissions, it's also supporting countries to achieve a secure, cheaper and home-grown energy system – to grow their economy and create jobs.

US Special Presidential Envoy for Climate John Kerry said:

The climate crisis is here. It's caused by the unabated burning of fossil fuels, and it's going to get worse without action. No government can solve this crisis by itself. We need to work together with the private sector and philanthropy to speed up the net zero, resilient transition.

One important outcome of today's event will be the ideas and potential collaborations that are seeded and the tangible action and ways private finance and philanthropies can collaborate to accelerate action on the road to COP28.

Since day one, President Biden has taken decisive action to mobilize an unprecedented effort to tackle the climate crisis, and that work continues today in partnership with the UK to raise ambition through concerted action between the public, private, and philanthropic sectors.

Currently emerging markets and developing economies account for two-thirds of global greenhouse gas emissions, and many are highly vulnerable to climate hazards. These economies are crucial for tackling climate change and halting nature's decline, as well as

being key partners for the UK and US in generating shared prosperity from the global transition.

The UK and US can capture a huge economic opportunity by supporting the global transition, whilst building closer relationships with high growth emerging markets and developing economies as they seek to meet their own financing needs.

Following Putin’s barbaric attack on Ukraine, governments are redoubling efforts not only to keep 1.5C alive, but boost cleaner, more secure and cheaper energy that moves away from costly fossil fuels.

https://www.bbc.com/news/business-66108553

Oil giant Shell warns cutting production 'dangerous'

- Published 1 hour ago

Image caption, Shell chief executive Wael Sawan

By Simon Jack

Business editor

Cutting oil and gas production would be "dangerous and irresponsible", the boss of energy giant Shell has told the BBC.

Wael Sawan insisted that the world still "desperately needs oil and gas" as moves to renewable energy were not happening fast enough to replace it.

He warned increased demand from China and a cold winter in Europe could push energy prices and bills higher again.

Mr Sawan angered climate scientists who said Shell's plan to continue current oil production until 2030 was wrong.

Professor Emily Shuckburgh, a climate scientist at the University of Cambridge, said firms such as Shell should focus on accelerating the green transition "rather than trying to suggest the most vulnerable in society are in any way best served by prolonging our use of oil and gas".

Mr Sawan told the BBC: "I respectfully disagree." He added: "What would be dangerous and irresponsible is cutting oil and gas production so that the cost of living, as we saw last year, starts to shoot up again."

The world is in a race to ditch fossil fuels in favour of greener alternatives as globally leaders have pledged to keep the world from warming by more than 1.5C this century.

Last year the European Commission outlined how the EU would speed up its shift to green energy to **end its dependency on Russian oil and gas.**

Many countries do not have the infrastructure to move to more sustainable forms of energy.

Mr Sawan said an international bidding war for gas last year saw poorer countries like Pakistan and Bangladesh unable to afford Liquid Natural Gas (LNG) shipments that were instead diverted to Northern Europe.

"They took away LNG from those countries and children had to work and study by candlelight," he said. "If we're going to have a transition it needs to be a just transition that doesn't just work for one part of the world."

The Committee of Climate Change found household gas appliances were linked to respiratory problems and cardiovascular disease.

Claire Fyson, co-head of climate policy at Climate Analytics, a global science and policy institute, told the BBC: "The idea that it's a choice between our addiction to fossil fuels or working by candlelight is a gross misrepresentation of reality, when we know renewables are cleaner, cheaper and better for public health."

The UK has pledged to spend £11.6bn on international climate finance but a memo seen by the BBC said economic shocks like the Covid pandemic had **"turned a stretching target into a huge challenge".**

The head of the International Energy Agency, Fatih Birol, has said that "if governments are serious about the climate crisis, there can be no new investments in oil, gas and coal from now".

While head of the UN Antonio Gutteres said investment in new oil and gas production was "economic and moral madness".

'Lack of stability'

Shell has a long history and a headquarters in the UK. But Mr Sawan said a lack of clarity and stability on energy policy and taxation risked making the UK a less attractive place to invest compared with more

welcoming countries. The UK has increased tax on UK-derived profits from 40 to 75% until 2028 unless oil and gas prices fall below thresholds for a sustained period - which most energy experts doubt will happen.
The UK currently imports more than half of its oil and gas - and that proportion is expected to rise without renewed investment in the North Sea. Shell recently decided to sell its stake in a major new undeveloped oil field at Cambo.
"Ultimately the government needs to make a call as to their views on imported versus domestic production," said Mr Sawan.
"When you do not have the stability you require in these long-term investments, that raises questions when we compare that to other countries where there is very clear support for those investments."

'Energy we desperately need'
Mr Sawan was also keen to stress the warm welcome extended to the company by the New York Stock Exchange at a recent investors' meeting where they laid out their plans to cut costs and maximise profits.
"The welcome we had there was exemplary. The Shell flag was waving next to the New York Stock Exchange flag," he said.
He said that the officials there had underlined his feeling that the US was more supportive of oil and gas companies.
"They said we continue to value a company that provides us the energy we desperately need. That resonated with me as a person who comes from Lebanon where we are starved of energy."

Future move to US
Mr Sawan did not rule out moving Shell's headquarters and stock market listing to the US. American oil companies command higher prices for their shares - Exxon Mobil for example is worth 40% more than Shell per dollar of profit.
"There are many who question whether that valuation gap can only be bridged if we move to the US. A move of headquarters is not a priority for the next three years."
But after that? "I would never rule out anything that could potentially create the right circumstances for the company and its shareholders. Ultimately, I am in the service of shareholder value," he said.
Although Shell says it has no plans to move its headquarters or stock market listing from London to New York for the next three years, Mr Sawan's comments will add to fears that London's stock market is losing its lustre as a venue for multinational companies to raise money after technology darling ARM Holdings recently announced plans to move its primary listing to the US.
A move of the UK's most valuable UK company to the US would seriously dent the UK's financial prestige and cost jobs in the financial services sector.

https://markets.businessinsider.com/news/stocks/jpmorgan-jamie-dimon-recession-banking-crisis-wfh-china-president-legacy-2023-7

Jamie Dimon warns of much bigger threats than recession, more banking turmoil, and downsides of working from home. Here are his 12 best quotes from a new interview.

Theron Mohamed
Jul 13, 2023, 7:25 AM MDT

Jamie Dimon. Brian Snyder/Reuters

- **Jamie Dimon sees far greater threats than recession, and the potential for more banking turmoil.**
- **The JPMorgan CEO is skeptical of the work-from-home trend, and says America shouldn't fear China.**
- **Here are Dimon's 12 best quotes from a new interview.**

Jamie Dimon flagged the risk of further banking turmoil, warned there are much graver threats today than a possible US recession, and urged America not to be cowed by China, in an interview with The Economist released this week.

JPMorgan's billionaire CEO also pushed back against rumours he might run for president, cast doubt on the working-from-home boom, and shared what he'd like his legacy to be.

Here are Dimon's 12 best quotes, lightly edited for length and clarity:

1. "We all want to be in a position where banks can fail and the world doesn't go down the tubes."

2. "There was a problem in plain sight, which was some interest-rate exposure, some of these uninsured deposits that ran like a flock of birds. It's over for now, most of it's been handled. If rates go up from here, and they might, it could rear its ugly head again." (Dimon was discussing the banking chaos sparked by Silicon Valley Bank's collapse earlier this year.)

3. "Consumers have money, they have $1 trillion more in their checking accounts. It's been coming down, and we think sometime around the end of the year that excess money will be spent. Even if we go into recession, consumer's in great shape, businesses are in pretty good shape." (Dimon noted that many Americans have benefited from wage growth and more than a decade of rising stock prices and home values.)

4. "I'm much more worried about some of these other serious things getting worse: the war in Ukraine spreading out, nuclear blackmail; if food doesn't get delivered, starvation in Africa. All these things may mitigate and go away, and we'll all breathe a deep sigh of relief. I wouldn't count on that."

5. "I can't get past the notion that we've never had it before. We've never had quantitative easing like this before, we've never had quantitative tightening before. I think the effects on that in the market may be more serious than other people think."

6. "We've done a terrible job on immigration, taxation, mortgages, affordable housing, healthcare. Obesity, diabetes — teaching kids that at school." (Dimon was laying out why the US economy has grown by less than 2% a year over the last two decades or so, instead of 3%.)

7. "We should be looking at our own flaws and not always blaming other people. The Chinese are not 10-feet tall. The notion that somehow America has to be that afraid of China — they don't." (Dimon underscored China's reliance on food and oil imports, lower GDP per capita, and inferior military compared to the US.)

8. "I would worry about another Trump presidency too by the way."

9. "I've never really believed I'm suited for it. I also think if you're going to do that, you should practice. You don't just say, 'Oh I'm going to run for office.'" (Dimon was asked about his political ambitions.)

10. "It doesn't work for younger kids in apprenticeships. It doesn't really work for creativity and spontaneity. It doesn't really work for management teams. There are real flaws. To the extent it works, I'm okay with it. If it doesn't work, I don't mind getting rid of it. We're not going to make that decision because we're pandering to employees — that is not the way to build a great company. So count me as a skeptic." (Dimon was sharing his view on working from home.)

11. "I completely understand why someone doesn't want to commute an hour and a half every day, totally got it. Doesn't mean they have to have a job here either."

12. "All I ever cared about my legacy is that people say we're gonna miss the son of a bitch, and he made the world a better place while he was here. "

https://www.bloomberg.com/news/articles/2023-07-12/itochu-overtime-ban-offers-solutions-for-japan-birthrate-decline?srnd=premium-asia#xj4y7vzkg

A Japanese Company Bans Late-Night Work. A Baby Boom Soon Follows

Itochu's move provided an unexpected benefit for working mothers. Could similar changes help East Asia's flagging birthrate?

Illustration: David Huang for Bloomberg Businessweek

By Kanoko Matsuyama

July 12, 2023 at 5:00 PM EDT

When Masahiro Okafuji became chief executive officer of Itochu Corp. in 2010, he made improving productivity a top priority so the company could compete against bigger rivals in Japan. His approach was counterintuitive. Working in the office after 8 p.m. would be banned, and there would be no more overtime —with rare exceptions. Security guards and human resources staff would scout Itochu's office building in Tokyo, telling people to go home. Those clinging to their desk were told to come in early the next day to get their work done—and get paid extra.

The tough love worked. A decade later, the company—whose businesses range from the FamilyMart convenience store chain to metals trading—reported a more

than fivefold jump in profit per employee from 2010 to 2021 as surging commodities prices and a weak yen buoyed its bottom line. What also changed, to the surprise of Itochu's management, is that more female employees took maternity leave, had kids and came back to work.

"We set out to boost productivity but had no idea it would have an impact on the birthrate," says Fumihiko Kobayashi, Itochu's executive vice president.

The trading house has emerged as an unlikely trailblazer in bucking a falling birthrate trend that Japan's government and others around the world have tried hard to reverse, without much success. Itochu saw the fertility rate among full-time employees double in the years since Okafuji became CEO, reaching almost two children per female employee in the fiscal year ended March 31, 2022—far exceeding Japan's current national rate of about 1.3.

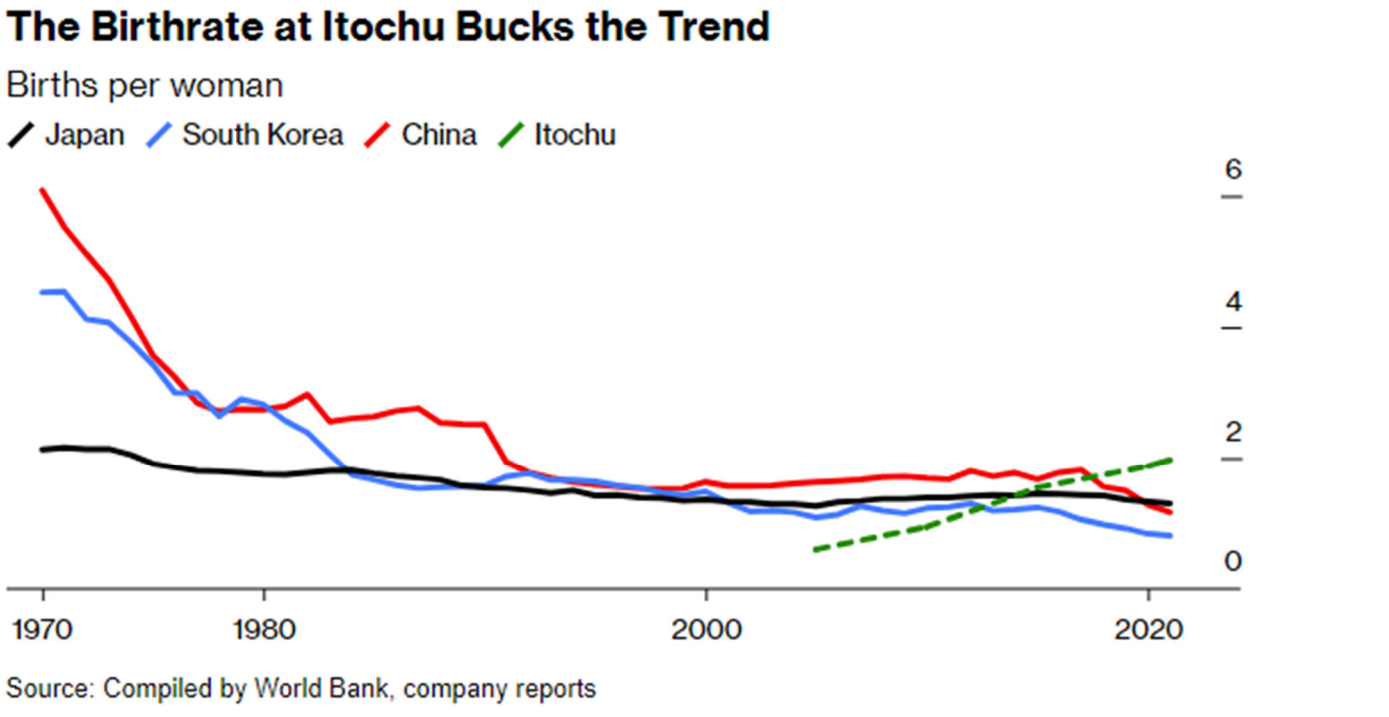
The birthrate spike caught the attention of Itochu board member Atsuko Muraki, who previously served as director of equal employment and child welfare at Japan's Ministry of Health, Labour and Welfare. She encouraged the company to make the trend-defying numbers public last year, seeking to send the social message that, for women, raising kids and having a career don't have to come at each other's expense. Mixed reactions followed. Some criticized Itochu for meddling in employees' lives and being insensitive to those with reproductive challenges.

Japan has long been known for a work culture in which grueling hours at the office—often followed by evenings spent eating and drinking with work colleagues—make having a family challenging, especially for female workers. As a result, many women exit the workforce to care for kids. Itochu's night work ban eased some of that pressure. And after the Covid-19 pandemic, employees were granted the option to work from home two days a week. The company went further last year, when it cut core office hours from eight to six, so people can punch out as early as 3 p.m.

So while getting pregnant might effectively mark the end of a woman's career at lots of other Japanese businesses, many female employees at Itochu returned, thanks to the curtailed working hours and a day-care center the company set up near its office, making it easier to juggle jobs and caring for kids.

Itochu's experience could offer some particularly important lessons for Japan and its neighbors in East Asia battling falling fertility rates. Japanese Prime Minister Fumio Kishida is seeking to halt an accelerating birth decline that he calls a "national crisis," which threatens to create an 11 million worker shortfall by 2040 and lead to a collapse in the nation's pension and health-care system. A new agency for children and families was created in April to tackle these challenges, while in June Kishida pledged $25 billion in new policies to encourage people to have more babies.

Outside Japan, falling fertility rates risk taking the steam out of Asia's economic powerhouses. South Korea has had the world's lowest birthrate for years, dipping to 0.78 in 2022. The proportion of women age 25 to 39 dropping out of the workforce there is also the highest among developed nations, believed to stem in part from a lack of child care—another driver of low fertility.



Growing financial strain and lack of child support have also led China's population to shrink for the first time in six decades, handing the crown of the world's most populous country to India.

It's no secret that a punishing, unsupportive corporate culture across these Asian economies has taken a toll on women's willingness to have children. Many working in China's tech industry lament an overtime culture known as "996"—working from 9 a.m. to 9 p.m. for six days a week. Jack Ma, founder of Alibaba Group Holding Ltd., drew widespread criticism in 2019 for calling "996" a blessing.

One Chinese company recently sought to ease that toxic work culture. In June online travel agency Trip.com Group Ltd. said it would offer annual 10,000-yuan ($1,379) child-care subsidies to employees for every newborn child through the age of 5, in addition to options to work from home and assisted-reproduction benefits.

While trading houses such as Itochu have underpinned Japan's postwar economic miracle, they also embody the nation's corporate culture characterized by male dominance, long working hours and pressure to join drinking parties with bosses and clients after work. Few expected major companies like Itochu, Mitsui, Mitsubishi or Sumitomo to break away from the decades-old ethos of extreme dedication to work and become a pioneer in the push for better work-life balance.

So when Anna Furuya returned from maternity leave in 2013 to her job at the time in Itochu's textile division, in the early days of the company's working-hour reforms, she felt like an outlier whenever she left for home earlier than her colleagues. "The change hadn't sunk in yet, so I was a minority using it and felt guilty to leave early," she says.

Now the 38-year-old, who these days works in Itochu's corporate division, says she's "incredibly happy" with her life as a working mother. Furuya sometimes

starts her day in the office at about 6:30 a.m. and leaves around 4 p.m. She can then watch her 9-year-old son do his homework while cooking dinner. “For people like me who are raising kids, it’s really necessary to shift your life to earlier in the morning to be efficient,” she says.

Other Japanese enterprises have taken note. Mitsui Sumitomo Insurance Co. said earlier this year that starting this month it would give as much as 100,000 yen ($700) to employees who assume some of the workload from colleagues on child-care leave. And Recruit Holdings Co., the Japanese parent of job search and review sites Indeed.com and Glassdoor, allows employees to work from home most of the time and offers extra days off on top of statutory holidays.

Big companies are generally more active in introducing work flexibility than smaller ones. Almost a third of large companies in Japan with more than 1,000 employees offer flexible work hours, compared with fewer than 10% of those with no more than 100 people, government data show.

Yet some question whether Itochu’s success can be replicated more broadly. Child-rearing requires both money and time. Trading houses offer some of Japan’s most well-paid jobs. The average annual income for someone working at Itochu in 2023, 17.3 million yen, is about four times the national average.

“The biggest reason for the birthrate drop is that people with low economic status don’t have financial means to have a family or children,” says Yasuko Hassall Kobayashi, an associate professor of Asian studies at Ritsumeikan University. “Itochu represents wealthy people in Japan. Employees and their partners are most likely to be high earners who can afford it.”

Still, the so-called *shosha* man stereotype of male corporate elites no longer fits Itochu’s workforce. The company says the flexibility and support it offers have attracted more women to join and fill mission-critical positions. Male employees also appear to be more involved with their families—half of them have taken paternity leave, compared with 14% of male workers nationwide.

“I don’t feel guilty about leaving early anymore,” says Furuya, the working mom at Itochu, “because it applies to everyone, not just mothers.”

https://www.mansionglobal.com/articles/jackson-hole-wyoming-isnt-the-only-remote-western-locale-with-trophy-homes-and-big-views-here-are-five-alternatives-ebe65004?mod=hp_minor_pos28&adobe_mc=MCMID%3D02254298112261001110652726310237342649%7CMCORGID%3DCB68E4BA55144CAA0A4C98A5%2540AdobeOrg%7CTS%3D1689505624

Jackson Hole, Wyoming, Isn't the Only Remote Western Locale With Trophy Homes and Big Views. Here Are Five Alternatives.

From Whitefish, Montana, to Moab, Utah, follow wealthy home buyers in seeking out enticing opportunities at a lower price point

BY ERIC GROSSMAN

| ORIGINALLY PUBLISHED ON JULY 16, 2023 | MANSION GLOBAL

A $9.8 million, five-bedroom lakefront estate in Whitefish, Montana.

ENGEL & VOLKERS WHITEFISH

Celebrities and the ultrawealthy have descended on Jackson Hole, Wyoming, for its gorgeous setting, built-in privacy and access to world-class skiing, fly fishing and other outdoor pursuits.

Longtime residents can remember when the downtown area—once limited to only a smattering of low-key dining options and touristy Western shops—would shut down come nightfall, whereas today you're bound to encounter a mix of seasonal residents and affluent tourists packing into designer boutiques and jockeying for tables at high-end eateries that have come straight from Aspen and Los Angeles.

Nestled near the Grand Tetons and Yellowstone National Park, the town of Jackson, Wyoming—whose population of around 11,000 resides in an area of less than 3 square miles—has become one of the most expensive places to buy real estate in the entire U.S. Local records have fallen over the past year; the single-family home average list price at the

end of 2022 was $7.6 million (a figure that has tripled since 2019, when the average price of a single-family home was $2.6 million). And for the first time in the town's history, the average single-family home sale price topped $5 million in March. Given how the majority of land in Teton County is federally owned and managed by the state of Wyoming, options are scarce, leaving interested buyers to look elsewhere. Fortunately, there are numerous alternatives out West, the kinds of areas that offer luxury real estate with many of Jackson Hole's charms and benefits but at more reasonable prices.

Coeur d'Alene, Idaho

Coeur d'Alene offers picturesque mountains, big beautiful lakes, and a charming downtown, with a huge waterfront resort as its focal point. Nearby there's an abundance of mountains and majestic alpine lakes.

"One would be hard pressed to find more beautiful natural scenery anywhere in the country," says Connie Nelson, a real estate agent at Tomlinson Sotheby's International Realty. "Coeur d'Alene and [its neighboring suburb of] Hayden offer a combination of luxury lakefront homes, expansive acreage and horse properties, and multimillion-dollar homes with million-dollar views of the breathtaking horizons of north Idaho."

With a population of around 55,000, Coeur d'Alene is 40 minutes from Spokane International Airport and there is a private airport in Hayden.

"Relatively speaking, property taxes are low, and the government entities are cooperative and easy to deal with," Nelson said. "In relation to other markets, one can get much greater value in a property for the price. The beauty, small-town feel, fresh air and clean lakes are all a part of the allure of the area."

Coeur d'Alene has been a haven for Californians for years, according to Emily Beutler of Century 21 Beutler & Associates, who observed how an influx of transplants during Covid contributed to the doubling of home prices, which have since stabilized.

This 9,500-square-foot, five-bedroom luxury estate in Coeur d'Alene, Idaho, is asking for $8.25 million. *Tomlinson Sotheby's International Realty*

"Many celebrities have found this area to be the perfect getaway for their summer vacation homes," Beutler said. "If you want to own your own waterfront home in this area you'll need a budget of $2 million-plus."

"While Jackson Hole is beautiful, [Coeur d'Alene] boasts a more affordable year-round quality of life for the many residents," said Lea Williams, associate broker at Tomlinson Sotheby's International Realty.

The community supports a dynamic arts scene—highlights include a symphony, opera and summer theater series—and five ski resorts are less than an hour away. Boaters and watersports enthusiasts choose from 50 lakes around the area, none more beloved than the glacially-formed Lake Coeur d'Alene, which is over 25 miles long, has 112 miles of shoreline, and is dotted with glittering homes along its shores.

Kelowna-Okanagan Valley, British Columbia

Kelowna, which has about 155,000 residents, and the surrounding Okanagan Valley in Canada draw outdoor enthusiasts and serious oenophiles—there are around 250 wineries in the region. The area has also gained international attention thanks to its reputation as a hub for startups, with more than 600 technology firms scattered throughout.

"Kelowna offers a remarkable lifestyle for its residents," says Nathan Flavel, regional managing broker at Sotheby's International Realty Canada. "The luxury real estate market is a captivating blend of breathtaking landscapes and elegant properties, attracting discerning buyers from around the world."

Contemporary designs with expansive glass walls and open-concept layouts are particularly popular, allowing homeowners to embrace the region's natural beauty and maximize the views. According to Flavel, the most desirable properties often boast features such as infinity pools, private wine cellars, meditation rooms, home theaters, and expansive outdoor living spaces that take full advantage of the picturesque surroundings.

This 2.3-acre, lakefront vineyard estate in Kelowna, British Columbia, is currently on the market for about $6 million.*Engel & Volkers Okanagan*

“Typical luxury price points can range from C$2 million (US$1.52 million) to well over C$10 million, depending on location, size and amenities. Luxury condos, particularly those with waterfront or downtown views, can range from around C$1 million to several million dollars,” Flavel said. “Currently, luxury property prices in the area have been trending upward, fueled by high demand, limited inventory and the region’s growing reputation.”

Widely considered to be warmer, milder and more affordable than Vancouver (around a 4.5-hour drive to the west), Kelowna is less than an hour from 20 lakes—including the 84-mile long Okanagan Lake, home to a number of exclusive gated developments—and more than 1,000 square miles of beaches. The arts and culture scene includes an opera, symphony orchestra, art galleries and much more. Come wintertime, Kelownians flock to Big White Ski Resort and SilverStar Mountain Resort.

“We were a retirement and vacation-home destination for decades and have now become the Park City, Austin or Boulder of Canada,” said Richard James Deacon, private office adviser at Engel & Volkers Okanagan.

Moab, Utah

With a population of just over 5,000, Moab, Utah, is surrounded by two national parks (Arches and Canyonlands), an assortment of more state and city parks, and an extensive trail network.

“What makes the Moab market appealing is the lifestyle it provides. With world-class mountain biking, river rafting, hiking and more, there’s really something for everyone,” said Lindsay Tripp, managing broker, Summit Sotheby’s International Realty.

The pandemic accelerated growth and pricing in the area drastically, though the luxury real estate market has cooled slightly since, according to Tripp.

“The market is full of opportunity for those seeking luxury,” she said, adding that there’s a lot of new high-end development. Views of stunning red rocks and other jaw-dropping natural formations are a key feature of most luxury listings, which tend to be spread out in different areas around town, and close proximity to the lively, walkable downtown is a major draw.

In Moab, Utah, this desert resort-styled family home blends into its surroundings. The four-bedroom luxury property is listed for $2.95 million.*Utah Properties / Berkshire Hathaway HomeServices*

“In the luxury realm, we’re seeing prices reach as high as the $5 million mark, but see much more inventory in the $1 million to $2 million range,” Tripp said. “Moab is poised for an enormous amount of growth over the next five to seven years, and we expect that the real estate market will continue to grow along with it.”

Suncadia-Cle Elum, Washington

Located only 80 miles from Seattle, the small town of Cle Elum, with a population of around 2,200, is tucked away on the sunny eastern slopes of the Cascade Mountains. The burgeoning community is best known as the home of Suncadia Resort, a 6,400-acre master-planned community that has become a four-season destination for outdoor adventure and family-friendly fun.

“While Cle Elum certainly isn’t Jackson Hole, it does have something Jackson Hole does not: luxury resort real estate at an average price of $1.6 million,” said Dan Redwine, a broker at Realogics Sotheby’s International Realty.

Suncadia has around 19 neighborhoods that offer everything from one-bedroom “resort-core” condos to 10,000-square-foot custom homes overlooking a golf course or the 1,200-acre protected river corridor.

Most homes in Suncadia are within walkable distance of the community’s trail network that covers over 40 miles. In addition to skiing in the winter, other draws include floating and blue ribbon fly-fishing on the Yakima and Cle Elum Rivers, and a pair of scenic championship golf courses set within a pine and fir forest.

This five-bedroom, luxury mountain lodge in Cle Elum, Washington is currently on the market for $4.95 million. The open-plan home is located in the gated community of Tumble Creek.*John L. Scott Real Estate / Luxury Portfolio International*

The Cle Elum River separates Suncadia from Tumble Creek—a private, gated, owners-only community with an 18-hole Tom Doak designed golf course, $20 million clubhouse, man-made lakes, and miles of trails for exploring. “Tumble Creek owners also enjoy their own private glamping area with chef-prepared meals waiting in Yeti coolers upon your arrival,” says Redwine.

Whitefish, Montana

The historic city of Whitefish sits at the northernmost tip of Montana’s Flathead Valley, 50 miles south of the Canadian border and is home to a permanent population of about 8,500. Glacier International Airport, which offers direct service to many major western U.S. cities, is only 15 minutes away, and because Whitefish sits on the western slope of the Continental Divide, it enjoys protection from powerful arctic air masses known as Alberta Clippers.

“Between June of 2020 to now, we have witnessed huge growth in our Valley,” said Angie Friedner, supervising broker at Glacier Sotheby’s International Realty. “The key driver for luxury homes in our area is the ability to have privacy while being close enough to enjoy the restaurants, golf courses, ski resorts and all of the outdoor activities. We have properties on numerous lakes and rivers that attract luxury buyers to our area. Properties with a large amount of acreage are also a driver in our market.”

The area has won national recognition for its outdoor pursuits, most notably the reliable skiing at Whitefish Mountain Resort and access to 1,500 lakes, including Flathead, the largest freshwater lake west of the Mississippi. Downtown is pedestrian-friendly, with covered sidewalks lined with art galleries, shops and restaurants. There are nine championship golf courses within an hour’s drive, plus river rafting, fly-fishing, and hundreds of miles of hiking and single-track mountain bike trails.

The area has condominiums, townhouses, golf club community homes and properties adjacent to Whitefish Mountain with ski in/ski out access to the slopes. Some of the most sought-after real estate in all of Montana is found along the seven-mile perimeter of Whitefish Lake.

According to Friedner, there are currently 214 residential properties on the market in Whitefish, with a high price point for a home on the lake of $35 million.

An interior view of a $35 million, 4,868-square-foot lakefront estate in Whitefish, Montana. The property features over 500 feet of pebbled Whitefish Lake beach frontage, along with 35 acres of forest and meadows.*Glacier Sotheby's International Realty*

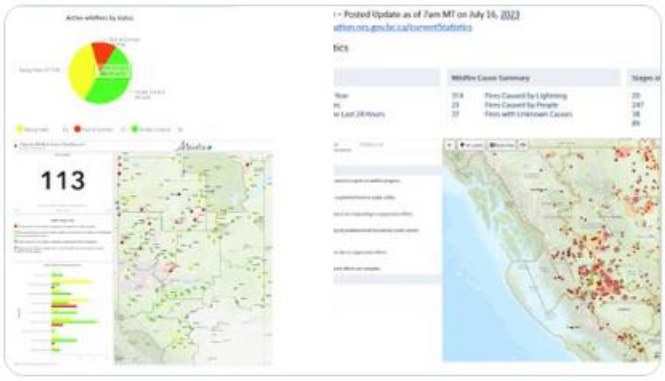
"We have a large pent-up buyer demand due to people missing out on properties because of cash buyers and multiple offers. The properties that linger tend to be overpriced," she said. "Most celebrities and high-ranking CEOs seek out our area because of the privacy and ability to remain somewhat anonymous."

Dan Tsubouchi @Energy_Tidbits · 3h

Wildfire update last 24 hrs
BC:
7am 07/16: 374 fires incl 247 Out of Control
7pm 07/15: 372 fires incl 249 OOC
7am 07/15: 376 fires incl 241 OOC

AB:
7am 07/16: 113 fires incl 15 OOC
7pm 07/15: 112 fires incl 14 OOC
7am 07/15: 114 fires incl 15 OOC

Stay safe!
#OOTT #NatGas



1 1 1,324

Dan Tsubouchi @Energy_Tidbits · 13h

big hail storm just hitting #Calgary by the Elbow River. feel bad for people down at the Stanpede

3 2 7 2,945

Dan Tsubouchi @Energy_Tidbits · 15h

Wildfire update last 24 hrs

BC:
7pm 07/15: 372 fires incl 249 Out of Control
7am 07/15: 376 fires incl 241 OOC
7pm 07/14: 369 fires incl 237 OOC

AB:
7pm 07/15: 112 fires incl 14 OOC
7am 07/15: 114 fires incl 15 OOC
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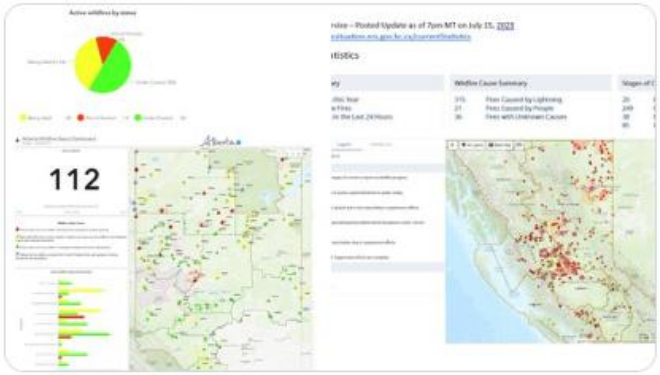
Stay safe!
#OOTT #NatGas



1 3 1,917

Dan Tsubouchi @Energy_Tidbits · 19h

Breaking!

"Libya's Sharara oil field is gradually resuming production after protesters that shut the facility
earlier this week left, a person familiar with the matter said. Output is likely to be fully restored over the next 24 hours" reports @business Hatem Mohareb.
#OOTT

1 3 5 2,493

SAF

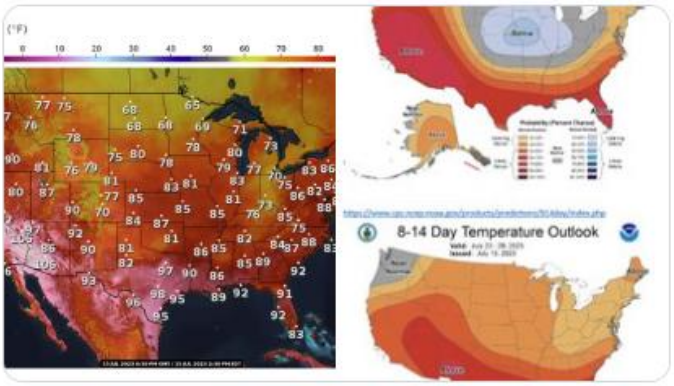
Dan Tsubouchi @Energy_Tidbits · 20h

Continued temperature support for US #NatGas.

Current @weatherchannel temp - really hot in south, hot in NE.

Today's @NOAA 6-10 & 8-14 day temperature outlook covering July 21-29: heat wave continues in souith, and moving to above normal temp .in rest of US.

#OOTT



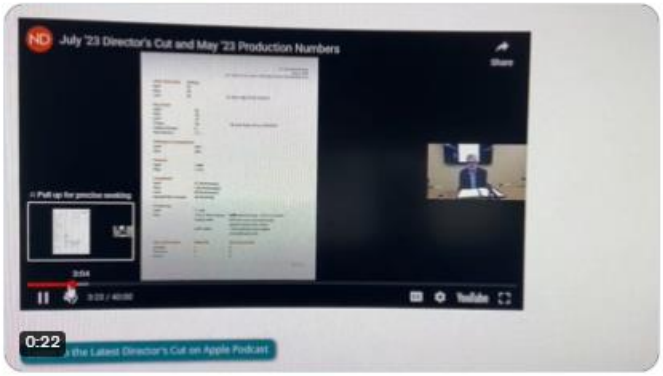
2 6 12 3,908

SAF

Dan Tsubouchi @Energy_Tidbits · 23h

North Dakota expects a "*good surge in production over the summer*" driven by post Covid record 26 frack crews.

But "as *they [frack crews] get ahead of the drilling rig count in terms of well completions*" reminds rigs need to increase (Apr 45, May 37, Jun 37, today 36) to rebuild...Show more



2 6 2,031

Dan Tsubouchi @Energy_Tidbits · Jul 15

#Vortexa crude #Oil floating storage at 07/15 est 91.81 mmb, -28.31 WoW vs hugely revised up by +20.68 07/07 of 120.12 mmb. Asia revised up big for 07/07.

Watch will be on floating storage in Jul/Aug to see if Saud voluntary cut/Russia reported complying brings back to... Show more

3 8 2,427

Dan Tsubouchi @Energy_Tidbits · Jul 15

looks like one of our local #Canmore deer decided to do some free shrubs trimming for our neighbours.

4 1,472

SAF

Dan Tsubouchi @Energy_Tidbits · Jul 15

Wildfire update last 24 hrs
BC:
7am 07/15: 376 fires incl 241 Out of Control
7pm 07/14: 369 fires incl 237 OOC
7am 07/14: 358 fires incl 230 OOC

AB:
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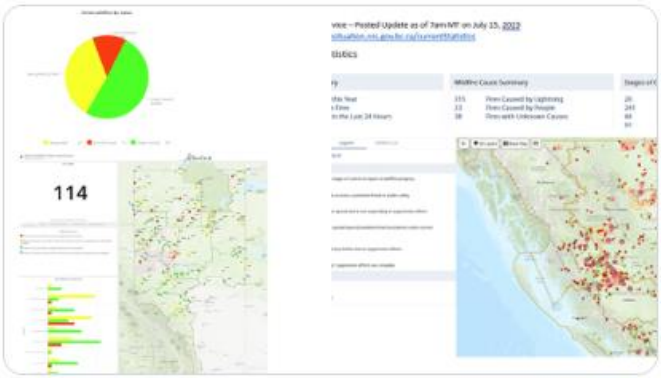
7pm 07/14: 114 fires incl 15 OOC
7am 07/14: 115 fires incl 15 OOC

Stay safe! #OOTT #NatGas



1 2 1,384

SAF

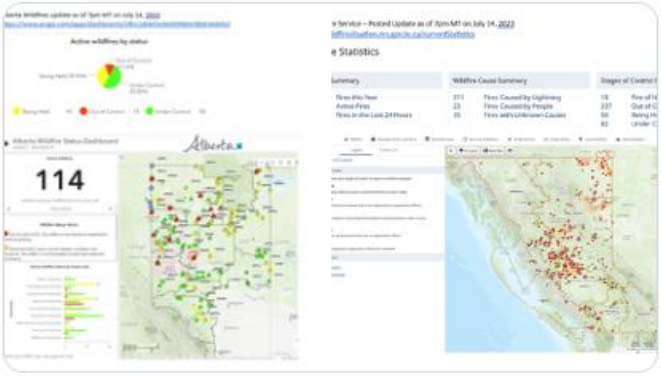
Dan Tsubouchi @Energy_Tidbits · Jul 14

Wildfire update last 24 hrs

BC:
7pm 07/14: 369 fires incl 237 Out of Control
7am 07/14: 358 fires incl 230 OOC
7pm 07/13: 360 fires incl 230 OOC

AB:
7pm 07/14: 114 fires incl 15 OOC
7am 07/14: 115 fires incl 15 OOC
7pm 07/13: 115 fires incl 15 OOC

Stay safe! #OOTT... Show more



2 1 1,589

Dan Tsubouchi @Energy_Tidbits · Jul 14

Hmmm!

@RepTimBurchett asks what is cost to Americans of climate push.

#Kerry using UN's fcast for #NetZero to cost $2.5-$4.5T/yr to 2050. Sounds huge but only ~1/2 of 👇@BloombergNEF est $196T.

Note Kerry's reply. private investment is not spending. If he was inferring... Show more

SAF Group created transcript of comments by Congressman Burchett and Special Climate Envoy Kerry at the House Foreign Affairs Committee meeting on July 13, 2023. https://www.youtube.com/watch?v=eS0-7A1B-4I

Items in "italics" are SAF Group created transcript

At 2:07:50 min mark, Burchett "Sir, you are unelected, you're non-Senate confirmed, bureaucrat basically. Can you tell me what the cost of some of these climate agreements that you've got the American taxpayers in, how much is this going to cost them?" Then after a Kerry answer that didn't seem to answer his question, Burchett follows up "can you just tell me how much it's going to cost us. Surely there's some sort of economic projections."

Kerry "..... you're right. The UN finance analysis suggests that it will cost trillions of dollars. Maybe $2.5 to $4.5 trillion a year between now and 2050 to actually effect the full transition to a clean energy economy. But, that's not spending. Most of it is calculating private sector funding that will invest in these new technologies and in these new economic opportunities. For instance, we have to build out a grid, competent, with smart grid so we can balance the distribution of energy in certain places."

Burchett "but you understand though that when they invest, money just doesn't appear." Kerry "No, you're absolutely correct". Burchett "I was always in the state legislature and somebody said lets just put another nickel on a can of beer. And I said they're just going to pass that on to your constituents. So I hope you understand that."

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

> **Dan Tsubouchi** @Energy_Tidbits · Jul 10
>
> 
>
> Headline: BNEF $196 Trillion investment to get to #NetZero.
>
> BUT $76T of $196T isn't economically competitive. Without new policy incentives, risk being $21T short ...

2 1 2,814

Dan Tsubouchi @Energy_Tidbits · Jul 14

Good that i looked over the screen to see wild raspberry picking season started a little earlier this year in #Canmore.

Don't normally look for another week.

Should be some wild raspberries & ice cream for desert this weekend.

3 1,179

Dan Tsubouchi @Energy_Tidbits · 3h

Wildfire update last 24 Hrs

BC:
7am 07/14: 358 fires incl 230 Out of Control
7pm 07/13: 360 fires incl 230 OOC
7am 07/13: 347 fires incl 228 OOC

AB:
7am 07/14: 115 fires incl 15 OOC
7pm 07/13: 115 fires incl 15 OOC
7am 07/13: 115 fires incl 13 OOC

Stay safe!
#OOTT... Show more

823

Dan Tsubouchi @Energy_Tidbits · 15h

Wildfire update last 24 Hrs

BC:
7pm 07/13: 360 fires incl 230 Out of Control
7am 07/13: 347 fires incl 228 OOC
7pm 07/12: 333 fires incl 214 OOC
AB:
7pm 07/13: 115 fires incl 15 OOC
7am 07/13: 115 fires incl 13 OOC
7pm 07/12: 118 fires incl 14 OOC

Stay safe!
#OOTT #NatGas

2 3 1,581

Dan Tsubouchi @Energy_Tidbits · 22h

China Baidu city-level road congestion -4.9% WoW to 133.9% of Jan 2021 levels.

But likely linked to July start of summer holiday season. ie City-level congestion in big cities (ie. Beijing, Shanghai) was up WoW last week but down WoW this week.

Other holiday support, 👇07/12... Show more

> **Dan Tsubouchi** @Energy_Tidbits · Jul 12
>
> 
>
> #Oil Positive
>
> China Scheduled domestic flights +2.4% WoW to 99,904. 3rd consecutive WoW increase .
>
> ...

2 2 1,990

Dan Tsubouchi @Energy_Tidbits · Jul 13

No sign of the strength in air travel rolling over post Labor Day. will be seasonal impact but @Delta CEO Bastian sees more of the same ie.still stronger than normal . #OOTT #JetFuel

2 10 1,845

Dan Tsubouchi @Energy_Tidbits · Jul 13

Wildfire update since 7pm

BC:
7am 07/13: 347 fires incl 228 Out of Control
7pm 07/12: 333 fires incl 214 OOC

AB:
7am 07/13: 115 fires incl 13 OOC
7pm 07/12: 118 fires incl 14 OOC

Hope safety for all!
#OOTT #NatGas

1 2 1,398

Dan Tsubouchi @Energy_Tidbits · Jul 13

looks like the fish aren't biting at this part of the Elbow River in #Calgary.

1 5 1,667

Dan Tsubouchi @Energy_Tidbits · Jul 12

Wildfire update since 7am

BC:
7pm 07/12: 333 fires incl 214 Out of Control
7am 07/12: 327 fires incl 207 OOC

AB:
7pm 07/12: 118 fires incl 14 OOC
7am 07/12: 119 fires incl 15 OOC

Hope safety for all!
#OOTT #NatGas

1 2 4 1,774

SAF

Dan Tsubouchi @Energy_Tidbits · Jul 12

Erdogan says holdup of Iraq/Kurdistan #Oil via Turkey is not Turkey's fault. Turkey is waiting for them to resolve their internal matters.

Erdogan "we endorse the opening of pipelines because it is a win-win deal. Let them win and let us win too".

Thx @KarwanFaidhiDri
#OOTT

Turkey supports resumption of Kurdistan oil exports: Erdogan

2 hours ago

Karwan Faidhi Dri(@KarwanFaidhiDri)

ERBIL, Kurdistan Region - Turkish President Recep Tayyip Erdogan on Wednesday said that the suspension of Kurdistan Region's oil exports is because of problems between Baghdad and Erbil, and Turkey takes no issue with the exports.

"We do not have an issue in receiving oil from Iraq. This issue is sourced from tensions between the federal government of Iraq and northern Iraq. My relevant friends are holding meetings in this regard," Erdogan told Rudaw's Zinar Shino during a press conference in Vilnius.

He said that Ankara is waiting for Baghdad and Erbil to resolve their internal matters, and then Turkey will act.

"We endorse the opening of pipelines because it is a win-win deal. Let them win and let us win too," he added.

Turkey stopped the flow of Kurdish oil through the Iraq-Turkey pipeline after a Paris arbitration court on March 23 ruled in favor of Baghdad, saying Ankara had breached a 1973 pipeline agreement when it allowed the Kurdistan Region to begin independent oil exports in 2014.

The International Chamber of Commerce (ICC) ordered Turkey to pay a penalty of $1.5 billion in damages to Baghdad for allowing the Kurdistan Regional Government (KRG) to independently export its oil between 2014 and 2018.

There have been several meetings between Turkish, Iraqi and Kurdish officials since the court ruling, but exports are still halted. Around 480,000 barrels a day were being exported by Erbil through Ankara, in addition to some 75,000 barrels of Kirkuk oil daily through the same pipeline.

Erbil and Baghdad reached an agreement in early April to resume the exports but Turkey's presidential elections last month delayed the process. Iraqi and Kurdish officials have cited Turkish officials saying that the delay is due to damage caused to the pipeline during February's devastating earthquakes.

The KRG is heavily reliant on oil revenues and an inability to sell its crude has severely impacted its economy. Erbil has lost billions of dollars since the exports were halted.

Iraq passed its highly-contentious federal budget in June after months of discussions. Article 14 was among the most disputed in the bill, detailing the management of the Kurdistan Region's oil income.

The budget law obliges the KRG to sell 400,000 barrels of crude oil through Iraq's national oil marketing body and if the suspension continues, Iraq will take Kurdish oil for its internal use.

Updated at 8:20 pm

2 5 1,531

Dan Tsubouchi @Energy_Tidbits · Jul 12

Hmmm!

Are Chinese consumers tapped out or just being cautious?

👇@sean_evers reminds Chinese didn't come out of Covid with a free check from Govt, so have to decide if and when to spend savings.

Are 3 consecutive up weeks in domestic air a signal consumers gaining confidence... Show more

SAF Group created transcript of comments by Sean Evers (Founder & Managing Partner Gulf Intelligence) on the Gulf Intelligence Daily Energy Markets podcast July 12, 2023.
https://twitter.com/gulf_intel/status/1679015608002969600

At 29:30 min mark, Evers *"The difference between the China post Covid picture and the west, US Europe, is that China, Chinese consumers not coming out of Covid with a free check from the government. And so savings are being treasured for the uncertain future."*

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

> **Dan Tsubouchi** @Energy_Tidbits · Jul 12
>
> 
>
> #Oil Positive
>
> China Scheduled domestic flights +2.4% WoW to 99,904. 3rd consecutive WoW increase .
>
> ...

2 3 2,193

Dan Tsubouchi @Energy_Tidbits · Jul 12

For those are aren't near their laptops, @EIAgov just released its #Oil #Gasoline #Distillates inventory as of July 7. Table below compares EIA data vs @businessexpectations and vs @APIenergy yesterday. Prior to release, WTI was $75.65. #OOTT

Oil/Products Inventory July 7: EIA, Bloomberg Survey Expectations, API			
(million barrels)	EIA	Expectations	API
Oil	5.95	-0.05	3.03
Gasoline	0.00	-1.35	1.00
Distillates	4.82	-0.80	2.91
	10.77	-2.20	6.94
Note: Oil is commercial so builds in a draw of 0.4 mmb in SPR for the July 7 week			
Note: Included in the oil data, Cushing had a 1.61 mmb draw for July 7 week			
Source EIA, Bloomberg			
Prepared by SAF Group https://safgroup.ca/news-insights/			

4 1,289

Dan Tsubouchi @Energy_Tidbits · Jul 12

Overnight wildfire update

BC:
7am 07/12: 327 fires incl 207 Out of Control
7pm 07/11: 319 fires incl 208 OOC

AB:
7am 07/12: 119 fires incl 15 OOC
7pm 07/11: 120 fires incl 18 OOC

Hope safety for all!
#OOTT #NatGas

2 1,298

Dan Tsubouchi @Energy_Tidbits · Jul 12

#Oil Positive

China Scheduled domestic flights +2.4% WoW to 99,904. 3rd consecutive WoW increase .

Flights didn't drop off post travel for Dragon Boat national holiday Jun 22-24 travel like what happened post May Day national holiday.

Thx @BloombergNEF Claudio Lubis
#OOTT

8 24 7,885

Dan Tsubouchi @Energy_Tidbits · Jul 11

More Out of Control wildfires in BC & AB today.

BC:
7pm 07/11: 319 fires incl 208 Out of Control
7am 07/11: 323 fires incl 197 OOC

AB:
7pm 07/11: 120 fires incl 18 OOC
7am 07/11: 118 fires incl 16 OOC

Hope safety for all!
#OOTT #NatGas

1,569

Dan Tsubouchi @Energy_Tidbits · Jul 11

Post fire, Mexico to lose 100,000 bpd until early Aug.

@Reuters Exclusive: "a top company ['#Pemex] source" says ""We are short of a little less than 100,000 bpd. We expect that by the first days of August we will recover all the crude," he said."

Thx @Analsa_Martinez

#OOTT

https://www.reuters.com/business/energy/mexicos-pemex-lose-some-100000-bpd-crude-this-month-after-fire-source-2023-07-11/

Exclusive: Mexico's Pemex to lose some 100,000 bpd of crude this month after fire -source

By Ana Isabel Martinez
July 11, 2023 12:20 PM MDT Updated 5 hours ago

[illegible]

MEXICO CITY, July 11 (Reuters) - [illegible]

The reduced production implies that in total Pemex will lose at least 2 million barrels of crude through the end of July, according to Reuters estimates. The source agreed on the calculation.

Pemex did not immediately reply to a request for comment.

Fire broke out at dawn Friday on the platform Nohoch-A, later spreading to a compression facility at the iconic Cantarell field, which used to be Pemex's largest producing field. The accident left at least two people dead.

Pemex, which produces in total about 1.6 million bpd of oil, said on Saturday it had an output loss of 700,000 barrels on the day of the accident at the Gulf of Mexico gas processing hub explaining "it shut down practically all the wells in the area."

By Saturday, the company said it had already recovered some 600,000 barrels per day.

But the source said that fully recovering production will only be possible at the beginning of August.

That means output from Pemex's offshore fields, from which the company extracts most of its oil, will be impacted in the near time. He did not provide details on the company's schedule to progressively restore output.

"[illegible]," he said.

MOUNTING CLAIMS

Cantarell, which produced more than 2 million bpd of oil two decades ago, currently produces about 170,000 bpd. Along with Ku-Maloob-Zaap, which contributes some 620,000 bpd from Pemex's northeastern marine region, they provide around 41% of the company's total production of 1.9 million bpd of crude and condensate.

Pemex has had several severe accidents in recent years at its facilities, including refineries and production hubs. In August 2021, a gas leak from an offshore platform triggered a fire that killed seven workers and caused the loss of 1.8 million barrels of oil output.

The government blames previous administrations for the condition of Pemex saying it inherited the company on the verge of bankruptcy. Opponents and analysts say the company's management during the current administration has been ineffective at growing production and preventing accidents.

Pemex said on Friday the fire had been extinguished promptly, preventing its spread to four other processing centers, which are part of the so-called Sonda de Campeche, a series of marine fields about 85 kilometers from Ciudad del Carmen, in the southeastern state of Campeche.

Pemex's safety performance indicators have deteriorated according to its own figures.

The accumulated frequency index -accidents per million man-hours worked- rose to 0.58 in the first quarter of 2023 from 0.37 in the same period of the previous year, while the accumulated severity index -days lost per million man-hours worked- went to 32 from 11 in the same period.

Reporting by Ana Isabel Martinez; Editing by Conor Humphries

Our Standards: The Thomson Reuters Trust Principles.

Dan Tsubouchi @Energy_Tidbits · Jul 9

#Pemex says still 100,000 b/d offline as of last night ie. 600,000 b/d back on of the halted 700,000 bpd.

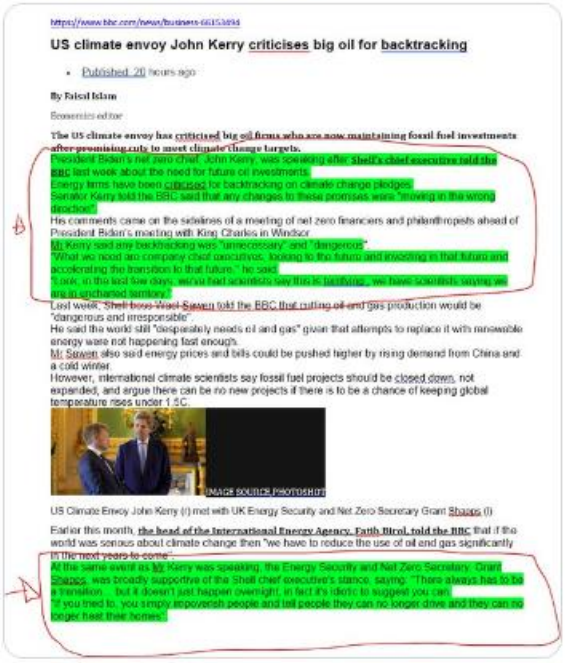
There are too many fires, accidents at @Pemex operations. Let's hope they use this tragedy of two ...

12 14 5,005

Dan Tsubouchi @Energy_Tidbits · Jul 11

Latest to have reality check.

UK warns #EnergyTransition "doesn't just happen overnight, in fact it's idiotic to suggest you can" "if you tried to, you simply impoverish people & tell people they can no longer drive & they can no longer heat their homes" UK's @grantshapps re... Show more



https://www.bbc.com/news/business-66153894

US climate envoy John Kerry criticises big oil for backtracking

- Published: 20 hours ago

By Faisal Islam

Economics editor

The US climate envoy has criticised big oil firms who are now maintaining fossil fuel investments after promising cuts to meet climate change targets.

President Biden's net zero chief, John Kerry, was speaking after Shell's chief executive told the BBC last week about the need for future oil investments.

Energy firms have been criticised for backtracking on climate change pledges.

Senator Kerry told the BBC said that any changes to these promises were "moving in the wrong direction".

His comments came on the sidelines of a meeting of net zero financiers and philanthropists ahead of President Biden's meeting with King Charles in Windsor.

Mr Kerry said any backtracking was "unnecessary" and "dangerous".

"What we need are company chief executives, looking to the future and investing in that future and accelerating the transition to that future," he said.

"I look, in the last few days, we've had scientists say this is terrifying... we have scientists saying we are in uncharted territory."

Last week, Shell boss Wael Sawan told the BBC that cutting oil and gas production would be "dangerous and irresponsible".

He said the world still "desperately needs oil and gas" given that attempts to replace it with renewable energy were not happening fast enough.

Mr Sawan also said energy prices and bills could be pushed higher by rising demand from China and a cold winter.

However, international climate scientists say fossil fuel projects should be closed down, not expanded, and argue there can be no new projects if there is to be a chance of keeping global temperature rises under 1.5C.

IMAGE SOURCE PHOTOSHOT

US Climate Envoy John Kerry (r) met with UK Energy Security and Net Zero Secretary Grant Shapps (l)

Earlier this month, **the head of the International Energy Agency, Fatih Birol, told the BBC** that if the world was serious about climate change then "we have to reduce the use of oil and gas significantly in the next years to come".

At the same event as Mr Kerry was speaking, the Energy Security and Net Zero Secretary, Grant Shapps, was broadly supportive of the Shell chief executive's stance, saying: "There always has to be a transition... but it doesn't just happen overnight, in fact it's idiotic to suggest you can.

"If you tried to, you simply impoverish people and tell people they can no longer drive and they can no longer heat their homes."

> **Dan Tsubouchi** @Energy_Tidbits · Jul 5
>
> #Oil #NatGas #LNG will be needed for longer.
>
> "What would be dangerous and irresponsible is cutting oil and gas production so that the cost of living, as we saw last year, starts to shoot up again" @Shell CEO Sawan. ...

2 8 3,091

Dan Tsubouchi @Energy_Tidbits · Jul 11

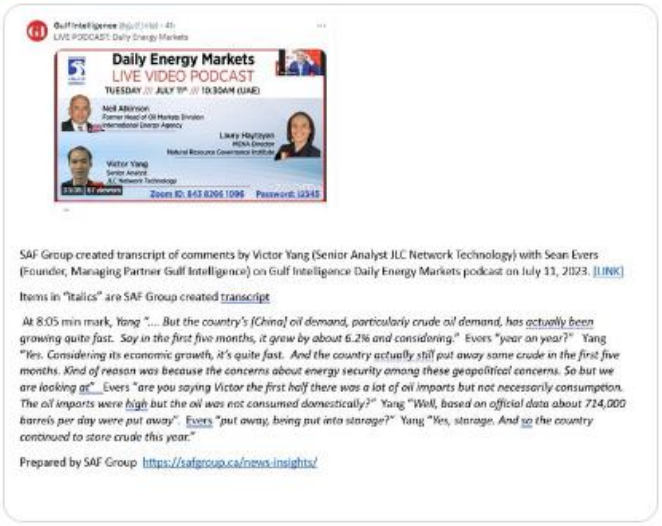
China ramps up #Oil in storage as imports exceed consumption.

See 👇 SAF transcript.

"based on official data about 714,000 b/d were put away" into storage in YTD May 31, Victor Yang to @sean_evers.

Usual great @gulf_intel podcast.

#OOTT



SAF Group created transcript of comments by Victor Yang (Senior Analyst JLC Network Technology) with Sean Evers (Founder, Managing Partner Gulf Intelligence) on Gulf Intelligence Daily Energy Markets podcast on July 11, 2023. [LINK]

Items in "Italics" are SAF Group created transcript

At 8:05 min mark, Yang "... But the country's [China] oil demand, particularly crude oil demand, has actually been growing quite fast. Say in the first five months, it grew by about 6.2% and considering." Evers "year on year?" Yang "Yes. Considering its economic growth, it's quite fast. And the country actually still put away some crude in the first five months. Kind of reason was because the concerns about energy security among these geopolitical concerns. So but we are looking at" Evers "are you saying Victor the first half there was a lot of oil imports but not necessarily consumption. The oil imports were high but the oil was not consumed domestically?" Yang "Well, based on official data about 714,000 barrels per day were put away". Evers "put away, being put into storage?" Yang "Yes, storage. And so the country continued to store crude this year."

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

7 19 4,026

Dan Tsubouchi @Energy_Tidbits · Jul 11

Wildfires up overnight, but not as bad as feared given lightning most places.

BC:
7am 07/11: 323 fires incl 197 Out of Control
7pm 07/10: 318 fires incl 197 OOC

AB:
7am 07/11: 118 fires incl 16 OOC
7pm 07/10: 117 fires incl 17 OOC

Hope safety for all!
#OOTT #NatGas

1 3 1,532

Dan Tsubouchi @Energy_Tidbits · Jul 11

Busted! Also humor for the day.

Spainish minister travel logistics to NATO.

"she gets the private jet, gets the car a little bit, gets on the bike to ride in. the virtue signaling in today's politicians - infuriating" @FerroTV as @tomkeene breaks up.

#OOTT #EnergyTransition

15 49 7,425

Dan Tsubouchi @Energy_Tidbits · Jul 10

Wildfires up today.

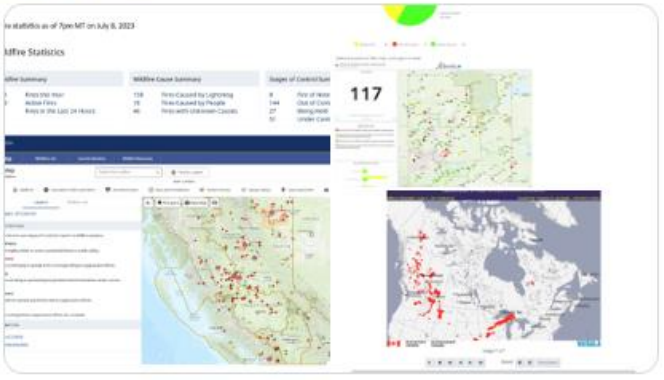
BC:
7pm 07/10: 318 fires incl 197 Out of Control
7am 07/10: 306 fires incl 202 OOC

AB:
7pm 07/10: 117 fires incl 17 OOC
7am 07/10: 112 fires incl 16 OOC

Big risk tonight with lightning strike risk across AB/BC.

Hope safety for all!

#OOTT #NatGas



1 4 1,678

SAF

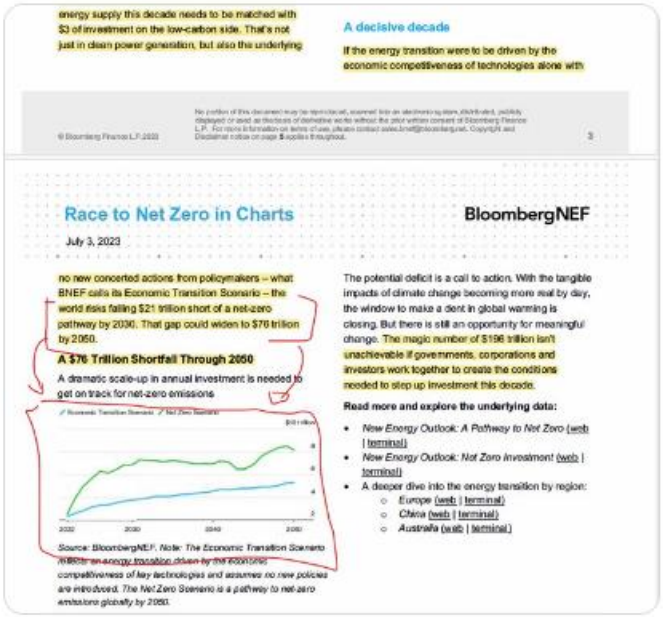
Dan Tsubouchi @Energy_Tidbits · Jul 10

Headline: BNEF $196 Trillion investment to get to #NetZero.

BUT $76T of $196T isn't economically competitive. Without new policy incentives, risk being $21T short of Net Zero pathway by 2030 & $76T by 2050.

#Oil #NatGas will be needed for longer!

Thx @BloombergNEF Nilushi... Show more



1 7 9 4,234

Dan Tsubouchi @Energy_Tidbits · Jul 10

Over 1/2 of US #OffshoreWind face delays as "*developers such as Avangrid, Shell-Ocean Winds, BP-Equinor & Orsted-Eversource have cited deteriorating economics due to rising costs in trying to renegotiate or cancel contracts*" reports @atinjai.

#NatGas power will be needed for...Show more

Offshore Wind Goals in US Are Imperiled by Deal Revisions: Brief
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 4.3GW 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

Megawatts
New Jersey — 7.2 — 11GW by 2040
New York — 4.3 — 0.1 — 4.0 — 9GW by 2035
Maryland — 1.6 — 6.5 — 8.0GW by 2031
North Carolina — 8.0 — 8GW by 2040
Massachusetts — 2.4 — 0.8 — 2.4 — 5.6GW by 2026
Virginia — 2.6 — 2.8 — 5.2GW by 2034
Louisiana — 5.0 — 5GW by 2035
California — 4.0 — 3-6GW by 2030
Oregon — 3.0 — 3GW by 2030
Connecticut — 1.3 — 0.9 — 2GW by 2030
Rhode Island — 0.4 — 0.3
Seeking contract amendments
Due to target
Has publicly announced renegotiation plan
State target
Source: BloombergNEF, news reports, company petitions

To contact BloombergNEF about this article click here.
To contact the author: Atin Jain in New York at ajain405@bloomberg.net
To contact the editor responsible for this article: Mark Williams at mwilliams108@bloomberg.net

To view this story in Bloomberg click here:

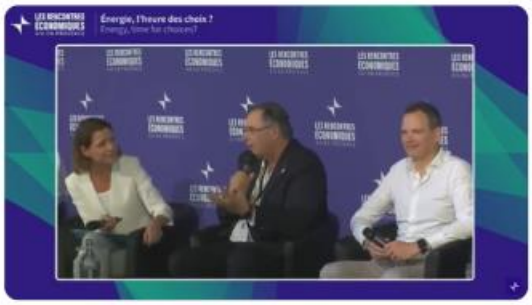
5 22 5,927

Dan Tsubouchi @Energy_Tidbits · Jul 10

Ouch!

#TotalEnergies CEO Pouyanne wants true all-in cost of offshore wind known.

Go to 3min mark Engie CEO MacGregor speaks, Pouyanne jumps in with his ce n'est pas vrai on offshore wind. Didn't go over well with MacGregor.
twitter.com/DocuVerite/sta...
#OOTT #EnergyTransition

> **Documentaire et Vérité** @DocuVerite
>
> Petit clash entre DG de Total et d'Engie 🍿
> Patrick Pouyanné: « Je pense que si tu fais des investissements tu ne prends sans doute pas 50€ par Mwh pour hypothèse, sinon on investit pas dans l'éolien offshore en Europe, ce n'est pas vrai. Et je pense qu'il faut dire la vérité..»
> Translated from French by Google
>
> Small clash between DG of Total and Engie 🍿
> Patrick Pouyanné: "I think that if you make investments you probably don't assume 50 € per Mwh, otherwise we don't invest in offshore wind power in Europe, that's not true. And I think we have to tell the truth.
>
> 
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>
> 2:49 AM · Jul 9, 2023 · **466.7K** Views

> **Documentaire et Vérité** @DocuVerite · Jul 9
>
> 
>
>
> Petit clash entre DG de Total et d'Engie 🍿
> Patrick Pouyanné: « Je pense que si tu fais des investissements tu ne prends sans doute pas 50€ par Mwh pour hypothèse, sinon on investit pas dans l'éolien offshore en Europe, ce n'est pas vrai. Et je ...

1 · 10 · 4,091

SAF

Dan Tsubouchi @Energy_Tidbits · Jul 10

Thunderstorms yesterday = more BC wildfires

7am July 10: 306 incl 202 Out of Control
7pm July 9: 280 incl 183 OOC
9am July 9: 242 incl 154 OOC
7pm July 8: 222 incl 144 OOC

👇 @environmentca lightning danger map 6:50am. BC looks clear BUT big lightning risk in Alberta
#OOTT

1 3 1,309

SAF

Dan Tsubouchi @Energy_Tidbits · Jul 10

Finally?

Is this a forward Indicator that Russia is actually cutting #Oil exports in August??

Aframax tanker rates going down! ie. less Aframax tankers needed to move Russian oil.

Thx @business Sophie Caronello

#OOTT

Excerpt

Bloomberg "Five Key Charts to Watch in Global Commodity Markets This Week"

July 10, 2023

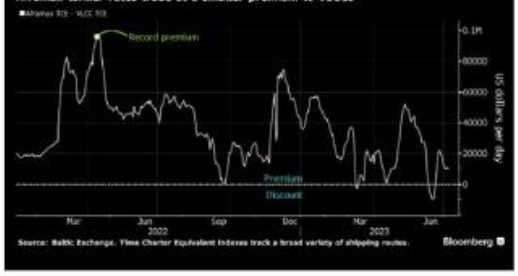
By Sophie Caronello

Shipping

Rates for smaller oil tankers known as Aframaxes are trading at a narrower premium to those for Very Large Crude Carriers – or VLCCs – as demand for Russia's crude wanes. More Aframax ships than VLCCs joined the dark fleet to carry Russian crude after Moscow's invasion of Ukraine in February 2022, leaving fewer of these vessels available for the rest of the world and pushing up freight rates. Now, both Saudi Arabia and Russia have pledged to extend crude supply cuts into August. That comes as Aframax time-charter equivalent rates are trading at a premium of roughly $10,500 per day above VLCC freight, down from a record $96,000 per day in April last year, according to the Baltic Exchange.

Less Demand to Carry Russian Crude

Aframax tanker rates trade at a smaller premium to VLCCs



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Dan Tsubouchi @Energy_Tidbits · Jul 10

EU #NatGas 1H demand -23.2% YoY

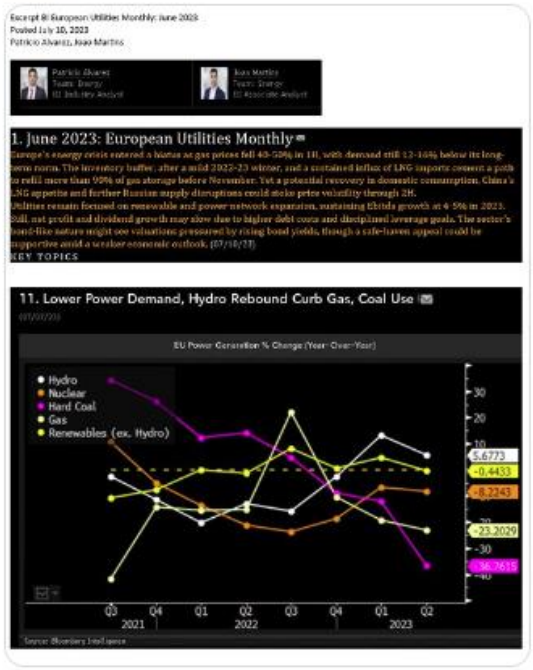
#1 factor: 1H power demand 12-16% below norm, thanks mild winter

#2 factor: Hydro generation +5.7% YoY

Equals TTF #NatGas 1H prices down 40-50% YoY.

Thx @business @PatAlvarezB Joao Martins

#OOTT



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Dan Tsubouchi @Energy_Tidbits · Jul 9

Thunderstorms today = more BC wildfires

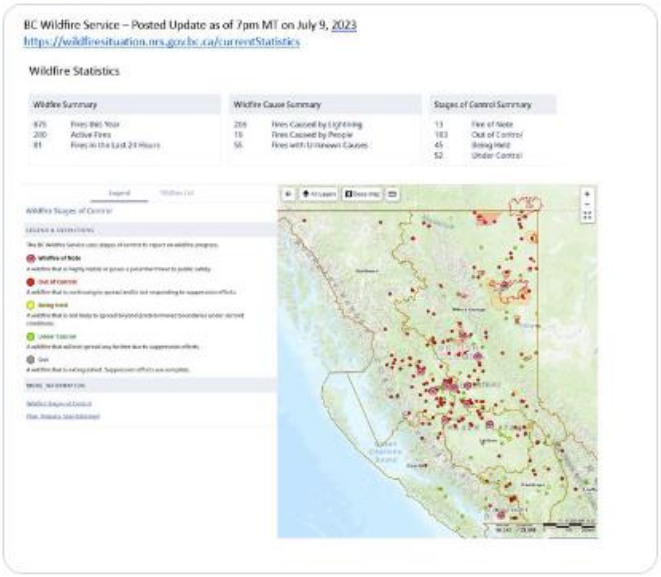
7pm July 9: 280 wildfires incl 183 Out of Control

9am July 9: 242 wildfires incl 154 Out of Control

7pm July 8: 222 wildfires incl 144 Out of Control

Hoping everyone can stay safe!

#OOTT #NatGas



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