Energy Tidbits

IEA Forecasts Peak Oil Demand by 2030 But Its Key Assumption EVs Displace 6 mmb/d of Fuels Has to be Questioned

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Short-Term Energy Outlook

Overview

U.S. energy market indicators	2023	2024	2025
Brent crude oil spot price (dollars per barrel)	**$82**	**$84**	**$85**
Retail gasoline price (dollars per gallon)	**$3.50**	**$3.40**	**$3.50**
U.S. crude oil production (million barrels per day)	**12.9**	**13.2**	**13.7**
Natural gas price at Henry Hub (dollars per million British thermal units)	**$2.50**	**$2.50**	**$3.20**
U.S. liquefied natural gas gross exports (billion cubic feet per day)	**12**	**12**	**14**
Shares of U.S. electricity generation			
Natural gas	42%	42%	41%
Coal	17%	16%	15%
Renewables	21%	23%	25%
Nuclear	19%	19%	19%
U.S. GDP (percentage change)	**2.5%**	**2.5%**	**1.6%**
U.S. CO_2 emissions (billion metric tons)	**4.8**	**4.8**	**4.8**

Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook,* June 2024

- **New U.S. crude oil and natural gas production data**. This month we are publishing regional crude oil and natural gas production data. These data provide a regional breakout of domestic crude oil and natural gas production in existing production tables and introduce some data series previously published in the *Drilling Productivity Report* and *Shale Gas and Tight Oil* into the STEO.

- **U.S. crude oil production.** U.S. crude oil production grows in our forecast by 2% from 2023 to an annual average of 13.2 million barrels per day (b/d) in 2024 and by another 4% in 2025 to 13.7 million b/d. Increasing production is led by the Permian region, which is the source of almost 50% of domestic crude oil production, followed by the Eagle Ford region and the Federal Gulf of Mexico.

- **OPEC+ crude oil production.** In our May outlook, we had assumed OPEC+ would begin to relax some voluntary production cuts beginning in the third quarter of 2024 (3Q24). In line with the group's recent announcement, we now expect OPEC+ will begin relaxing voluntary cuts in 4Q24. As a result, we expect that the extension of voluntary OPEC+ production cuts will cause global oil inventories to continue falling through 1Q25. Although we expect crude oil prices to rise from early June levels, lower-than-expected Brent prices in May mean our forecast for 2024 is $84/b, 4% lower than our May forecast.

- **Natural gas production.** We expect U.S. marketed natural gas production to fall by 1% in 2024 because of low natural gas prices. Marketed natural gas production in the Haynesville region in our forecast falls by 9% this year and production in the Appalachia region falls by 4%. The forecast

declines are partly offset by growth of 4% in the Permian region, largely because most of the natural gas produced in the Permian is associated with oil production. We forecast U.S. marketed natural gas production will increase by 2% next year, with growth in all three of these regions, as natural gas prices rise in our forecast.

- **Natural gas prices.** We expect that a drop in U.S. natural gas production in 2024 will continue to put upward pressure on the Henry Hub natural gas spot price. We expect that the Henry Hub spot price will average $2.50 per million British thermal units (MMBtu) this year, 13% higher than we expected last month, with prices rising from $2.12/MMBtu in May to $3.30/MMBtu in December 2024.

- **Electricity expenditures.** This summer—June through August—we expect that U.S. residential electricity customers' monthly bills will average around $170, about the same as last summer. We expect that lower residential electricity prices in most areas of the country will partially offset slightly increased electricity consumption, a result of our assumption that summer temperatures will be warmer this year.

- **Electricity consumption.** We revised our forecast for retail sales of electricity to the commercial and industrial sectors slightly upwards from our May STEO to reflect changes in our expectations of power demand from data centers. We expect commercial demand, which includes demand from data centers, in the South Atlantic to increase by 5% in 2024 and 2% in 2025. We expect West South Central commercial sector demand will increase by 3% this year and 1% next year.

Notable forecast changes

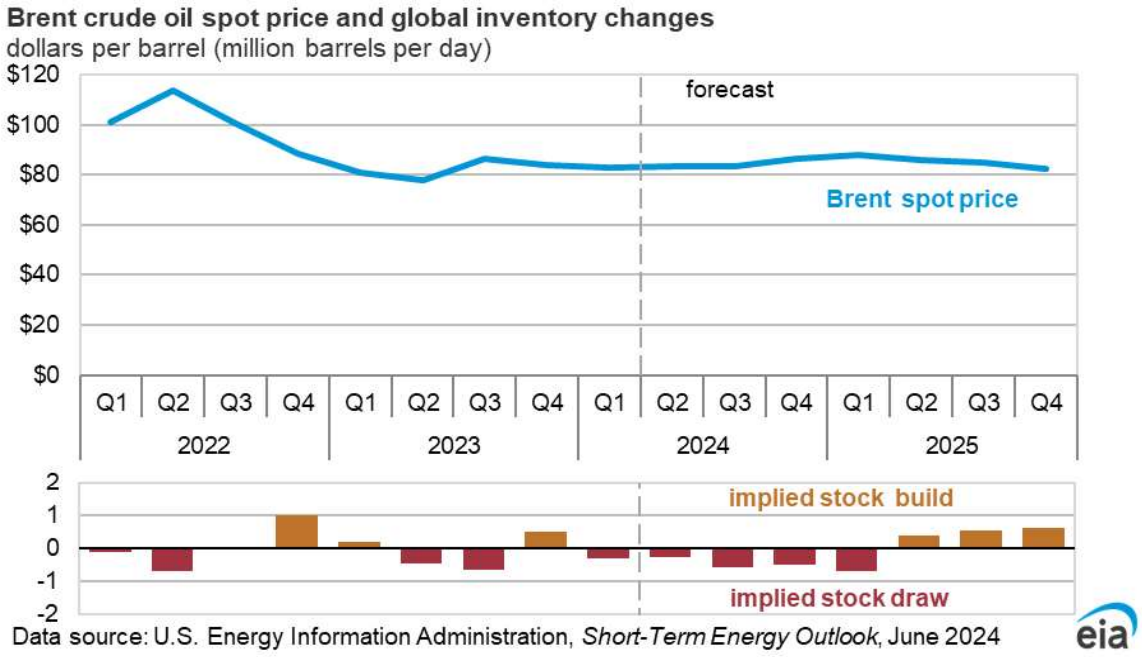
Current forecast: June 11, 2024; previous forecast: May 7, 2024	**2024**	**2025**
Brent spot price (dollars per barrel)	**$84**	**$85**
Previous forecast	$88	$85
Percentage change	-4.1%	0.0%
Retail diesel price (dollars per gallon)	**$3.90**	**$4.00**
Previous forecast	$4.00	$4.20
Percentage change	-2.9%	-3.9%
Retail gasoline price (dollars per gallon)	**$3.40**	**$3.50**
Previous forecast	$3.50	$3.50
Percentage change	-3.3%	-1.9%
Henry Hub spot price (dollars per million British thermal units)	**$2.50**	**$3.20**
Previous forecast	$2.20	$3.10
Percentage change	12.8%	5.1%
Natural gas inventories (billion cubic feet)	**3,340**	**3,260**
Previous forecast	3,520	**3,410**
Percentage change	-5.2%	-4.5%

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

Global Oil Markets

Global oil prices and inventories

The Brent crude oil spot price averaged $82 per barrel (b) in May, down $8/b from April. Daily spot prices also initially fell following the OPEC+ announcement on June 2, closing at $78/b on June 6. The extension of OPEC+ cuts through 3Q24 led us to reduce our forecast for OPEC+ oil production for the rest of 2024. We expect less OPEC+ production for the rest of this year will cause Brent prices to rise to an average of $85/b during the second half of 2024 (2H24). Because of less OPEC+ production, we expect more oil will be withdrawn from global inventories in 2H24 than we did last month. Despite more inventory draws in this month's forecast, we lowered our expectation for the annual average Brent price in 2024 compared with the May STEO to reflect the lower starting point for the forecast resulting from the recent price decline.



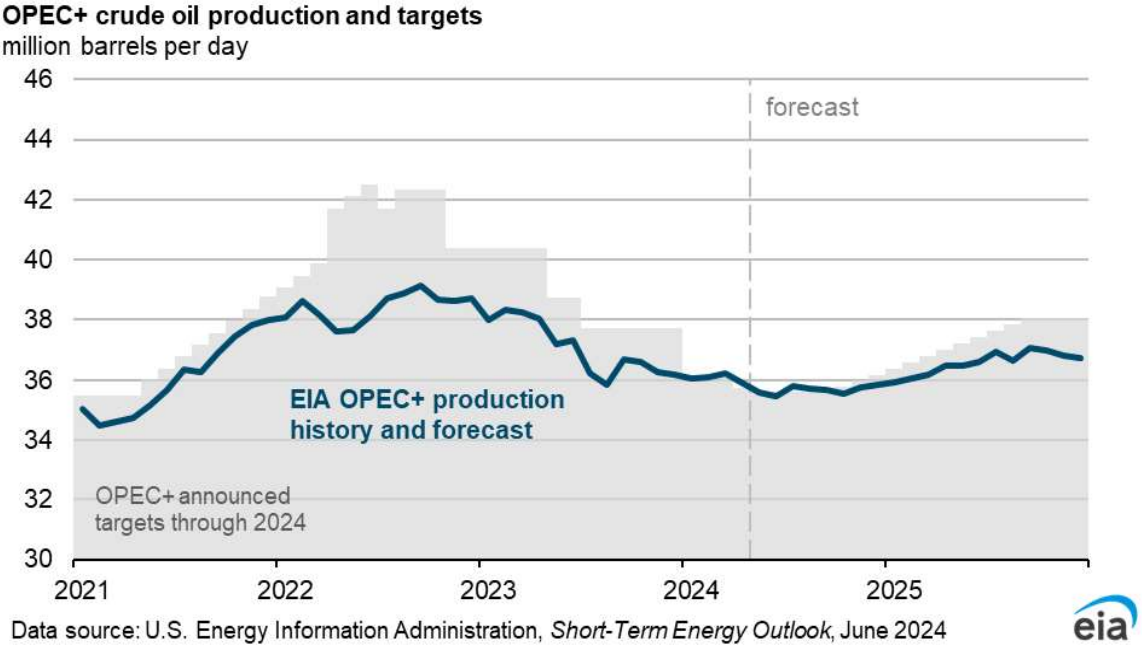
In our May outlook, we had assumed OPEC+ would begin to relax some voluntary production cuts beginning in 3Q24. We now expect OPEC+ will not begin relaxing voluntary cuts until 4Q24, in line with the group's recent announcement. Although crude oil prices initially fell following the OPEC+ announcement, we expect the extension of all voluntary cuts through 3Q24 will cause global oil inventories to continue falling through 1Q25 and put upward pressure on oil prices over that period.

Global oil inventories fell by an estimated 0.3 million barrels per day (b/d) in the first half of 2024 (1H24), and we expect they will decrease by an average of 0.6 million b/d from 3Q24 through 1Q25. Following the start of the phaseout of voluntary OPEC+ supply cuts in 4Q24 and supported by the ongoing supply growth from countries outside of OPEC+, we expect growth in global oil supply will outweigh growth in global oil demand growth, returning the market to moderate inventory builds for most of 2025. We forecast that global oil inventories will begin increasing at an average of 0.4 million b/d in 2Q25 and will increase by 0.6 million b/d in the second half of 2025.

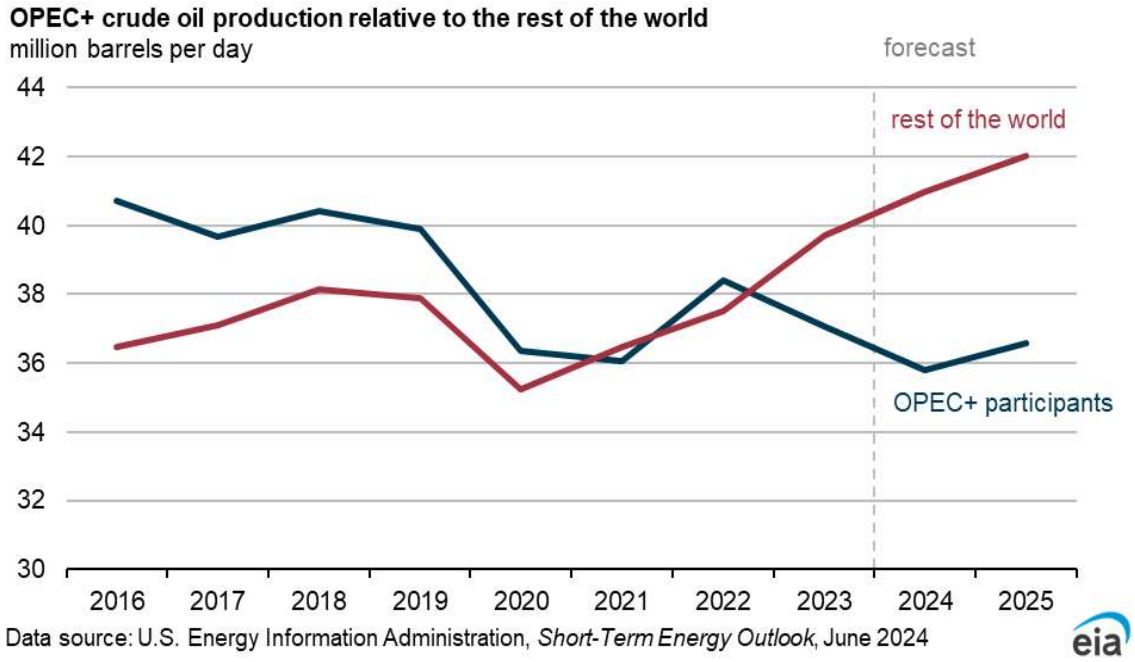
As a result, we expect oil prices will increase to an average of $87/b in 4Q24 and $88/b in 1Q25. As global oil inventories rise during most of 2025, we forecast the Brent crude oil price will gradually fall to an average of $83/b by 4Q25.

Global oil production

We expect OPEC+ will largely adhere to production targets announced on June 2. The announcement extends the additional voluntary production cuts by countries such as Saudi Arabia and Russia, which were set to expire at the end of June 2024, through September 2024. Beginning in October, these member countries plan to gradually phase out their production cuts on a monthly basis through the end of September 2025. In addition, the round of production cuts that OPEC+ participants announced in April 2023 and were set to expire at the end of 2024 were also extended through the end of 2025. Given the extension of these production cuts, our expectation is that OPEC+ crude oil production will follow these new targets until early 2025. At that time, we expect that some OPEC+ producers will keep production below the targets in an effort to limit global oil inventory builds.



Although OPEC+ cuts are limiting growth in world oil production, we estimate that production growth outside of OPEC+ will remain strong. Forecast production outside of OPEC+ increases by almost 2.0 million b/d in 2024, led by increasing production from the United States, Canada, Brazil, and increasingly Guyana. We expect that global production of petroleum and other liquid fuels will increase by 0.8 million b/d in 2024, which is 0.2 million b/d less than in last month's STEO because of the extension of voluntary OPEC+ production cuts through 3Q24. We now expect OPEC+ liquid fuels production to decrease by 1.2 million b/d in 2024.



In 2025, we expect that global production of liquid fuels will increase by 2.2 million b/d. As the gradual phaseout of the first round of OPEC+ voluntary production cuts unfolds throughout the year, OPEC+ production increases by 0.7 million b/d combined with 1.4 million b/d of production growth from countries outside of OPEC+.

Global oil consumption

We forecast that global consumption of liquid fuels will increase by 1.1 million b/d in 2024 and 1.5 million b/d in 2025. Most of the expected growth is from non-OECD countries, which increase their liquid fuels consumption by 1.1 million b/d in 2024 and 1.3 million b/d in 2025. The growth in non-OECD consumption is led by China and India, which we expect will increase consumption by a combined 0.6 million b/d in 2024 and 0.7 million b/d in 2025. In addition, we expect an increase in liquid fuels consumption from non-OECD Asia because of increased bunker fuel demand driven by Red Sea disruptions and longer shipping routes for tankers. We expect increases related to bunker fuels will contribute around 10% of total oil consumption growth in 2024. In OECD countries, liquid fuels consumption stays relatively flat in 2024 and increases by 0.3 million b/d in 2025.

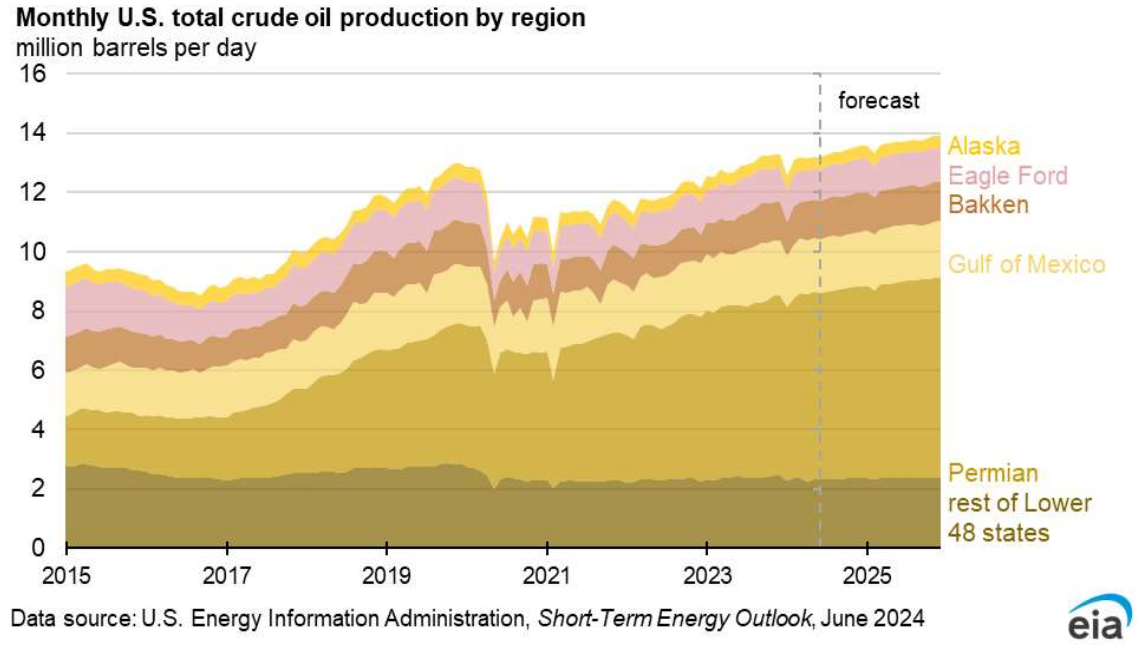
U.S. Petroleum Products

U.S. crude oil production

We forecast U.S. crude oil production will grow by 2% in 2024 and average 13.2 million barrels per day (b/d) for the year and a further 4% in 2025. If our forecast is realized, U.S. crude oil production would set new annual records in both 2024 and 2025.

In Table 4a of the June STEO, we introduce more detail for the regional breakout of our U.S. crude oil production forecast. Comparing the regions, we forecast the Permian region, mostly in Texas, will contribute almost two-thirds of all U.S. crude oil production growth through December 2025. This share

continues a decade-long trend of the Permian region leading crude oil production growth in the United States. The Permian region's proximity to crude oil refining and export terminals on the Gulf Coast, established takeaway capacity, and improved new well productivity support crude oil production growth in the region. The Egale Ford and the Federal Offshore Gulf of Mexico regions will contribute the second- and third-largest shares (15% each).



In Table 10a of the June STEO, we introduce data on drilling productivity metrics formerly published in our *Drilling Productivity Report*. Recent data on crude oil production from newly completed wells suggest operators in the Permian, Eagle Ford, and Bakken regions have noticeably increased their productivity on a per-rig basis over the past 18 months.

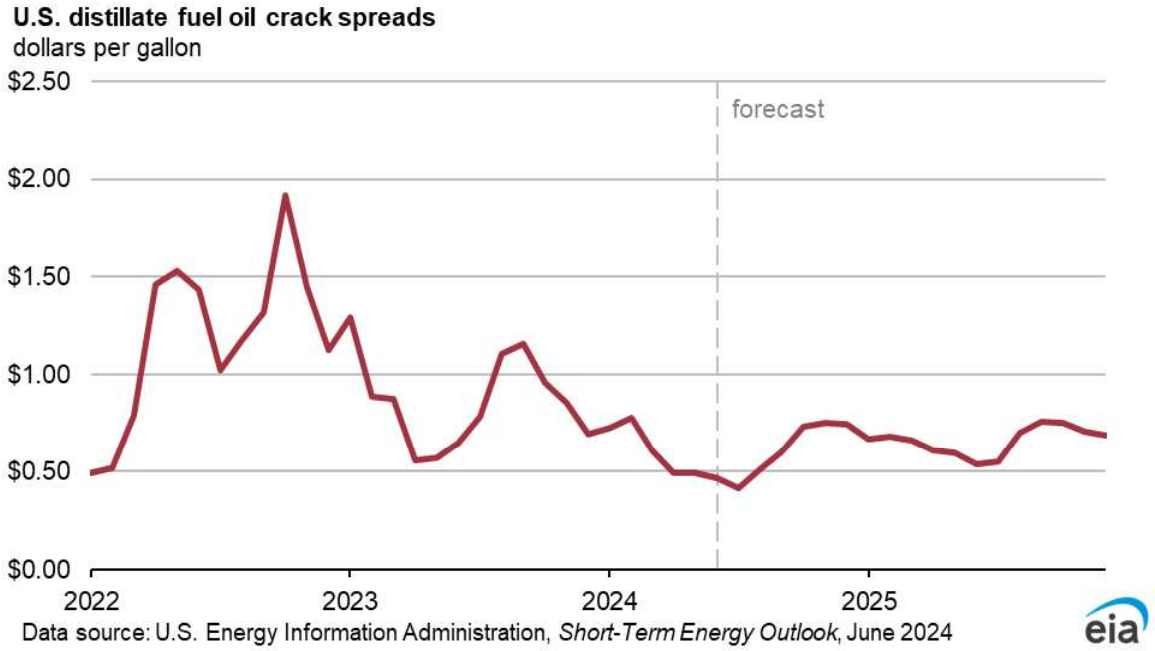
Distillate crack spreads

Distillate crack spreads (the difference between the wholesale price of diesel and crude oil) in April and May averaged almost 50 cents per gallon (gal), close to recent lows seen in January 2022. Less-than-usual distillate consumption over the last few months is the primary cause of recent narrowing in distillate crack spreads. We forecast distillate crack spreads will remain lower than last year through the summer and will then increase toward the end of the year when more distillate is used for heating and the corn harvest. We expect distillate crack spreads to increase to about 75 cents/gal in 4Q24, which is still about 10 cents/gal less than in 4Q23. In 2025, we forecast distillate crack spreads will increase overall as some refinery capacity comes offline and lower-than-average distillate inventories keep upward pressure on prices.

We estimate U.S. consumption of distillate fuel decreased about 5% during the first five months of 2024 compared with the same period last year. However, we expect the United States will consume 1% more distillate fuel in 2H24 than it did in 2H23, as some of the factors that have been limiting consumption early this year recede. On-highway trucking—the single-largest end use of distillate fuel oil—has been

subdued since the start of the year as measured by the American Trucking Association's truck tonnage index. We expect manufacturing activity will increase over the next 18 months, supporting trucking demand and increasing distillate consumption.

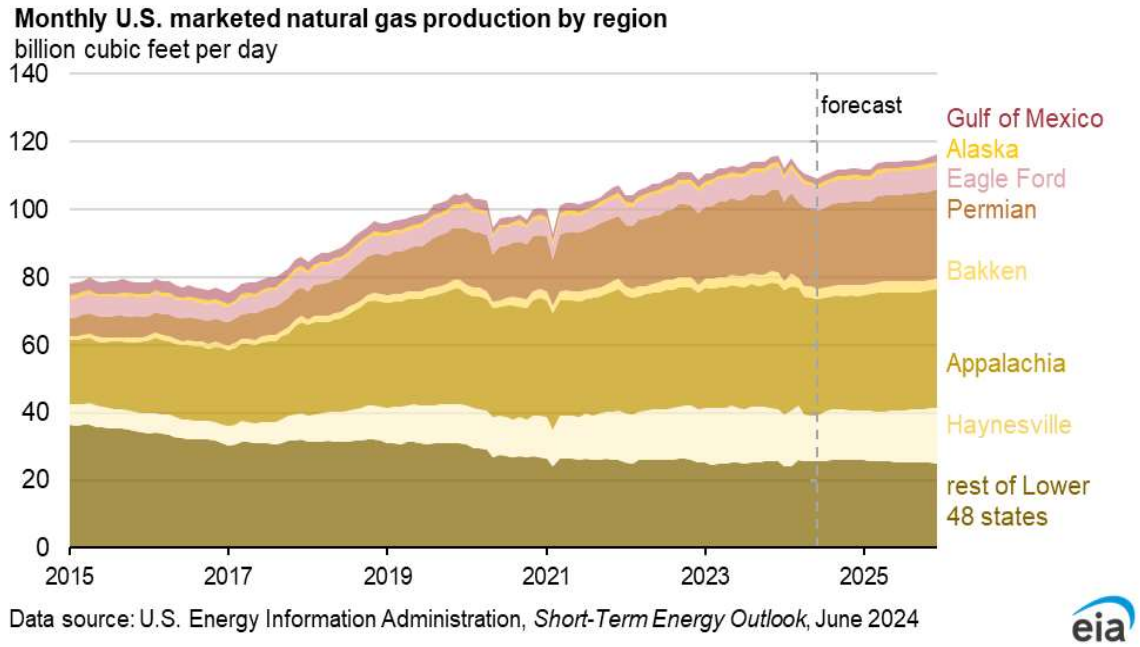
At the same time, we expect increasing substitution of biofuels in place of petroleum distillate will continue as renewable diesel production increases, which could limit consumption of petroleum-based distillate. Renewable diesel and biodiesel grew as a share of total distillate consumption from 5% in 2021 to 7% in 2023. We forecast the share of distillate consumption made up of biofuels will increase to 9% in 2024.



Natural Gas

Natural gas production

With the introduction of new natural gas production data tables in this month's STEO, we now provide data and analysis for U.S. marketed natural gas production by region in the Lower 48 states. Table 5a includes historical and forecast production data for the Appalachia, Bakken, Eagle Ford, Haynesville, and Permian regions specifically. The *rest of Lower 48 states* category includes U.S. producing areas outside these regions.



We expect U.S. marketed natural gas production to be down 1% this year, led by a 9% decline in the Haynesville region and 4% decline in the Appalachia region as some producers have limited development and production because of low natural gas prices.

We estimate U.S. marketed natural gas production averaged 110 billion cubic feet per day (Bcf/d) in May, a 3% decrease from 1Q24. Production in the Haynesville region was 15% lower in May than in 1Q24, and production in the Appalachia region decreased 3%. Production in the Haynesville and Appalachia regions is driven by natural gas prices, which reached record lows in early 2024. Low natural gas prices encouraged producers in the Appalachia and Haynesville regions, in particular, to curtail production until market conditions changed.

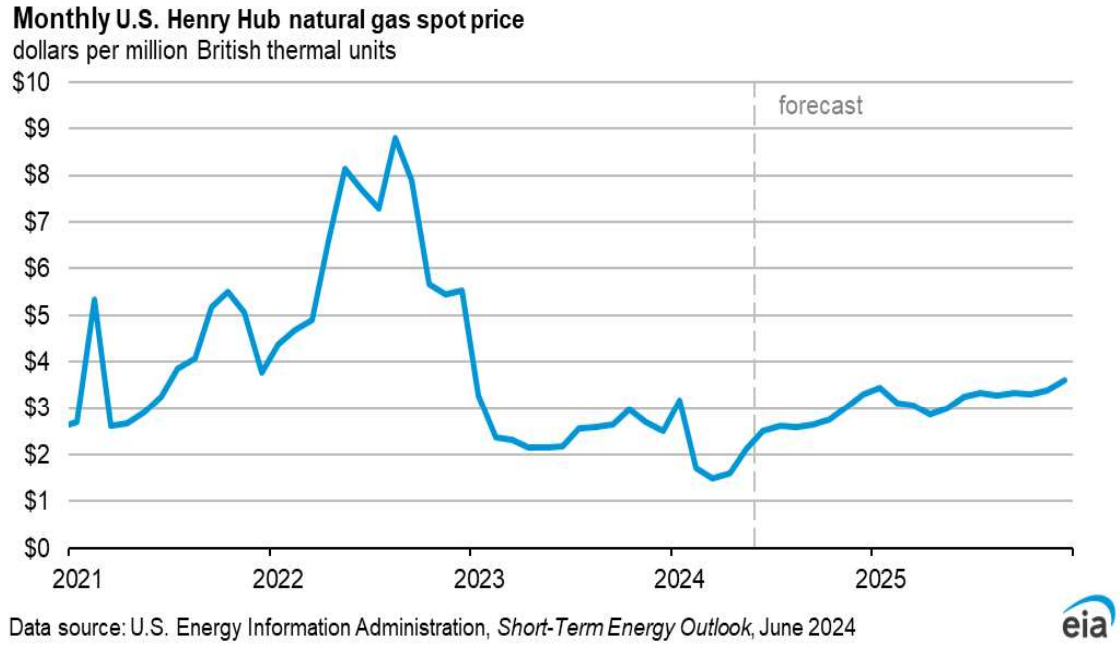
Natural gas production in the Permian region, which is mostly associated natural gas from oil wells, is driven by crude oil production. Unlike regions that focus more on natural gas production not associated with oil wells, natural gas production in the Permian region remained almost flat in May compared with 1Q24 as crude oil production in the Permian continued to grow.

We expect marketed natural gas production to increase by 2% in 2025, with production rising in most regions in the Lower 48 states. The increase in U.S. natural gas production in 2025 is the result of a combination of higher natural gas prices, which will incentivize more drilling in the natural gas-producing Appalachia and Haynesville regions, and more associated natural gas production in the Permian region. Pipeline takeaway capacity additions in the Northeast and Permian regions will support increased production.

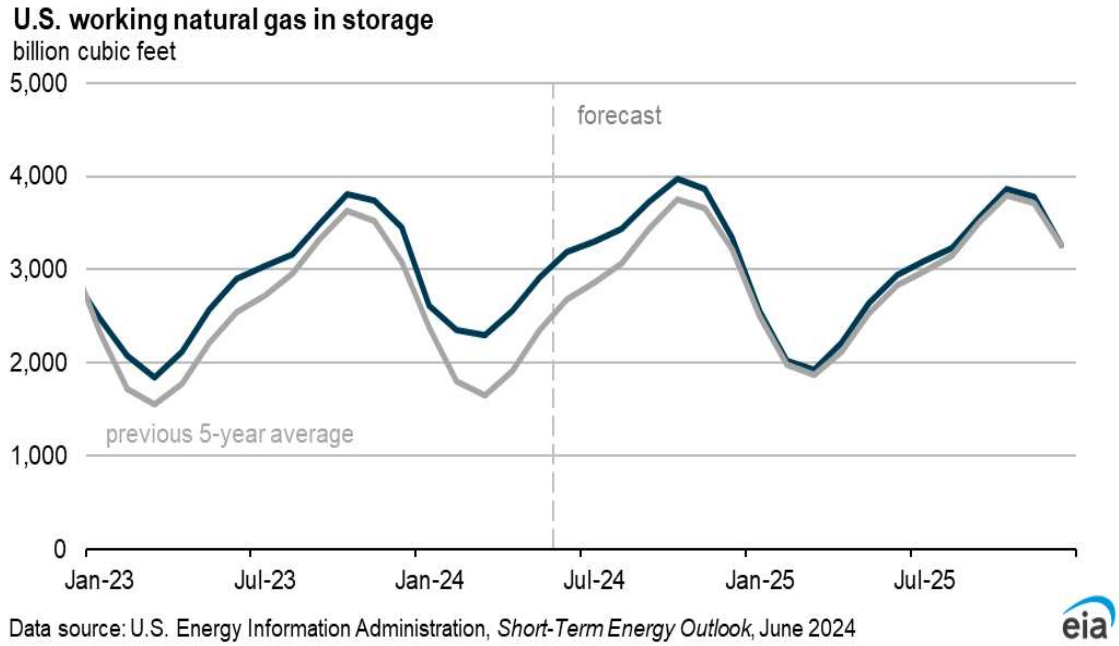
Natural gas prices and storage

We expect the U.S. benchmark Henry Hub natural gas spot price to rise in the summer, averaging just over $2.60 per million British thermal units (MMBtu) in 3Q24, up from an average of $2.12/MMBtu in May. Because of relatively flat production through the second half of 2024 and a seasonal increase in

demand from the electric power sector, we expect storage injections will continue to be below the five-year average (2019–2023), helping support higher prices. Storage injections two months into this injection season (April–October) have averaged 12% below the five-year average injections for this period.



Nevertheless, U.S. storage inventories are starting the summer with more natural gas than usual. Although we forecast an increase in natural gas prices for the summer months as storage inventories rise by less than the five-year average, we expect inventories will remain above the five-year average and keep prices below $3.00/MMBtu on average in 3Q24, similar to the $2.59/MMBtu average in 3Q23. Natural gas storage inventories were 24% above the five-year average at the end of May, and we forecast storage inventories to end the summer injection season on October 31 at 6% above the five-year average. If U.S. natural gas production is lower than our forecast and consumption in the electric power sector to meet air-conditioning demand increases more than we expect, natural gas prices could be higher than forecast.



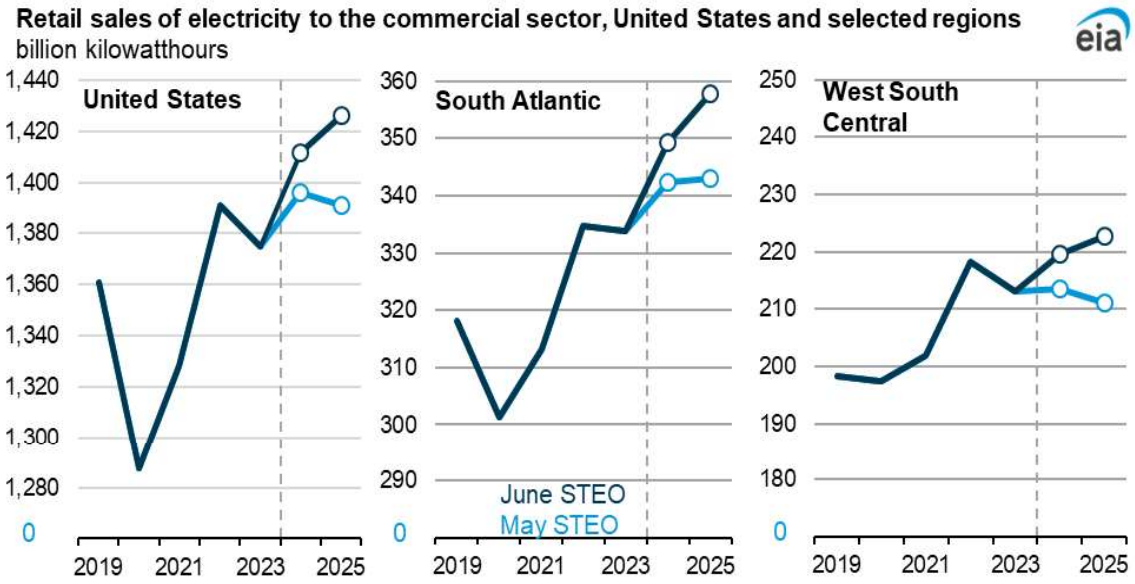
Electricity, Coal, and Renewables

Electricity consumption

We forecast that consumption of electricity in the United States will increase by 3% in 2024 and by 2% in 2025. This growth reflects more demand for air conditioning based on our assumption of warmer temperatures in the forecast, along with more electricity use related to the expansion of data centers.

We expect that U.S. retail sales of electricity to residential end-use customers in 2024 will be 3% higher than 2023 as a result of more electricity use for air conditioning this summer and more heating demand in the winter months. Residential electricity sales grow by a further 2% in 2025.

We forecast that retail sales of electricity to customers in the U.S. commercial and industrial sectors will each grow by about 3% in 2024, followed by a 1% increase in commercial electricity sales and a 4% increase in industrial sales in 2025. We have revised our electricity consumption forecasts slightly upwards to reflect adjustments to our expectations of power demand from data center customers. In the May STEO, we had forecast U.S. commercial sector electricity sales to increase less than 2% in 2024 and decline slightly in 2025.



The largest revisions to the forecast are in the South Atlantic and West South Central regions, which together account for 40% of U.S. commercial electricity demand. We now expect that commercial consumption in the South Atlantic will rise by 5% in 2024 and 2% in 2025, while West South Central demand will increase 3% this year and 1% next year. Data center developments are evolving rapidly, and we plan to re-evaluate our upcoming forecasts as we receive more information.

Electricity generation

We expect that U.S. electricity generation will grow by 3%, or 130 billion kilowatthours (BkWh), in 2024 and by 1%, or 40 BkWh, in 2025. The largest source of increase in power generation is coming from renewable energy sources, with solar alone accounting for more than 70% of the increase in U.S. generation. We expect that the U.S. electric power sector will use solar energy to produce 5% of all U.S. generation in 2024 and 7% in 2025, up from a generation share of 4% in 2023. Wind power's contribution to generation growth is beginning to flatten. Although we expect wind generation to increase by 5% in 2024 and 3% in 2025, because of growth in other generation sources, its share remains at 11% of total generation in both 2024 and 2025, similar to 2023.

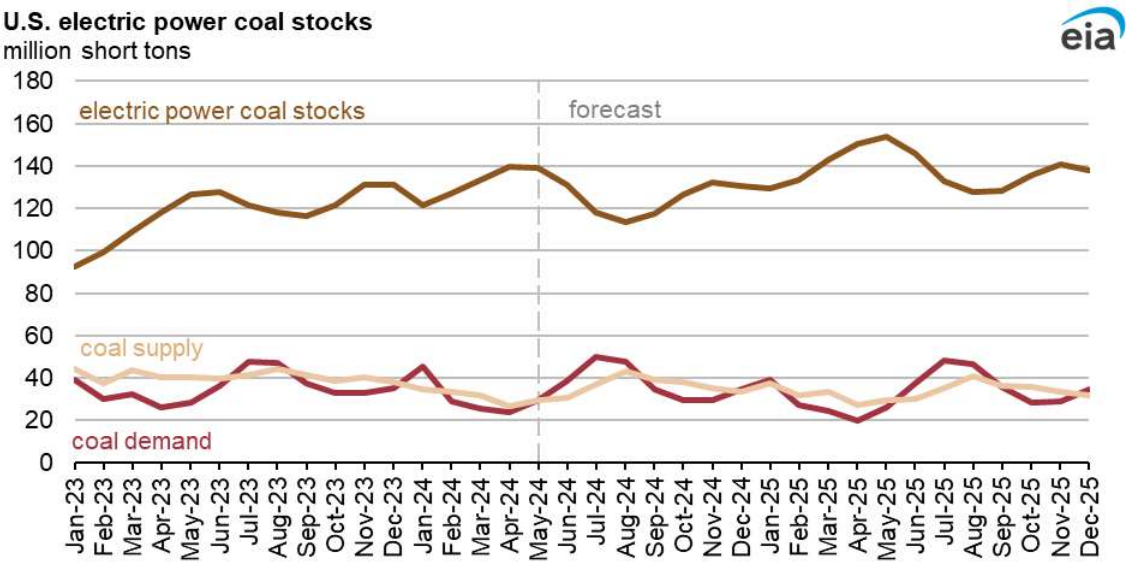
Natural gas provides a forecast 42% of U.S. generation in 2024, the largest share and about the same as last year. We forecast the natural gas share to fall to 41% in 2025 in response to growing generation from renewables and relatively little new natural gas-fired capacity coming online. The forecast share of generation from coal falls from 17% in 2023 to 16% this year and 15% in 2025, with 15 gigawatts of coal-fired capacity set to be retired through the end of next year.

Coal markets

With an upward revision in our forecast of U.S. electricity demand as well as expected increases in the price of natural gas, we forecast that coal consumption by the electric power sector will total more than 380 million short tons (MMst) in 2024 and about 360 MMst in 2025. This amount is still less than electric

power consumption of 387 MMst in 2023, but it represents a slight increase from our forecast in the May STEO.

We expect that the increase in U.S. consumption of coal this summer will reduce electric power coal stocks to between 110 MMst and 115 MMst in August before stocks begin to accumulate again, reaching more than 130 MMst in December 2024 and almost 140 MMst in December 2025. Meanwhile, we forecast U.S. coal production will total almost 510 MMst in 2024 and fall to 500 MMst in 2025.



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, June 2024

Export traffic has returned to the Port of Baltimore. As of June 10, the full 700-foot-wide and 50-foot-depth channel is available for commercial vessels. With the U.S. Census Bureau reporting another strong month of metallurgical exports in April, we have increased our forecast of metallurgical exports slightly to 50 MMst in 2024. We expect all coal exports to total more than 100 MMst in 2024, up 3% from 2023 and slightly more than our May STEO forecast, with exports again increasing about 3% in 2025.

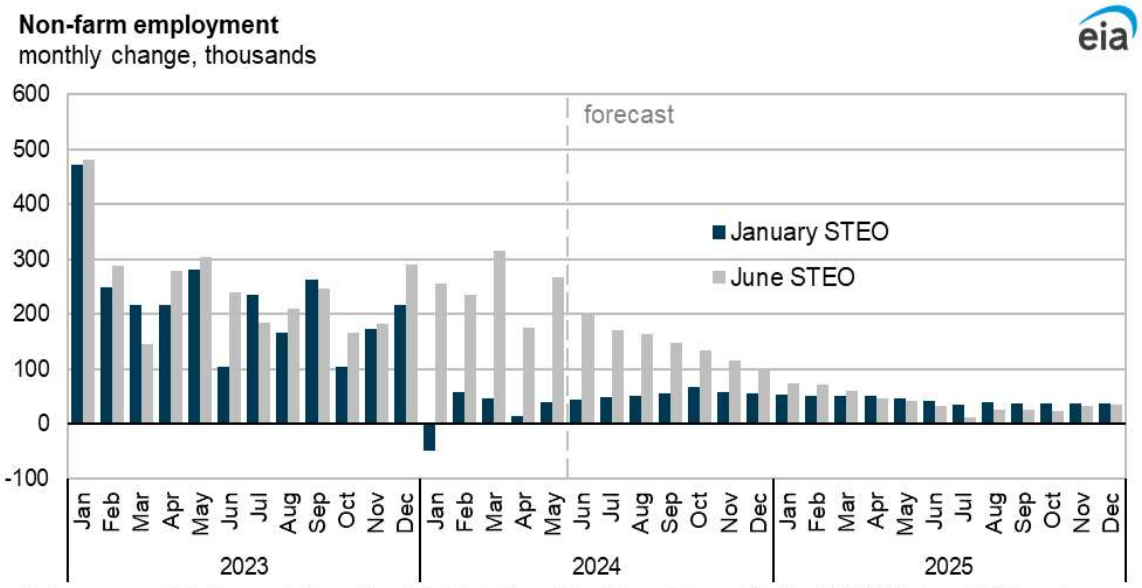
Economy, Weather, and CO_2

U.S. macroeconomics

Our forecast assumes real GDP will grow by 2.5% in the United States in 2024, unchanged from the forecast in May. We revised the forecast for 2025 lower by 0.3 percentage points to 1.6%. According to the U.S. Bureau of Economic Analysis, GDP grew at an annual rate of 1.3% in 1Q24, slower than the annual growth rates of 4.9% in 3Q23 and 3.4% in 4Q23.

Despite U.S. GDP growth slowing over the forecast, the labor market continues to show strength. In the January 2024 STEO, we had assumed that about 200,000 jobs would be added to U.S. non-farm employment in the first five months of 2024. However, more than 1.2 million jobs have been added over that period, according to the U.S. Bureau of Labor Statistics, and our forecast assumes 1.0 million more jobs will be added by the end of this year. In contrast, we expect that employment growth will slow in 2025, increasing by less than 500,000 jobs from December 2024 to December 2025. Accompanying

slowing employment growth, our forecast assumes the U.S. unemployment rate will remain near 3.8% through 2024 and rise above 4.0% by the end of 2025.



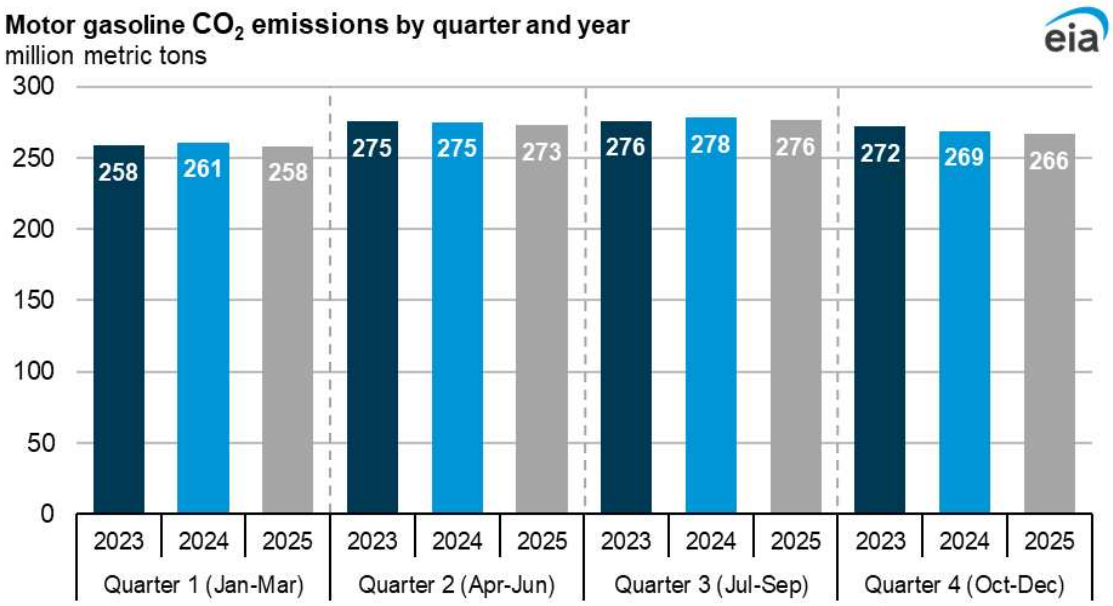
Data sources: U.S. Energy Information Administration, *Short-Term Energy Outlook* (STEO), June 2024, and Bureau of Labor Statistics, *Employment Situation Summary*

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

Emissions

We expect U.S. energy-related carbon dioxide (CO_2) emissions to be relatively unchanged in 2024 from 2023 and to decrease by almost 1% in 2025. We forecast CO_2 emissions from natural gas rise by 1% in 2024, offsetting a similar decline in coal emissions. Petroleum emissions are unchanged as increasing jet fuel consumption offsets falling emissions from diesel fuel and gasoline. We expect slightly less total CO_2 emissions in 2025 compared with this year.

CO_2 emissions vary for some fuels seasonally as well as annually. One notable example is motor gasoline, which makes up about half of U.S. energy-related petroleum emissions. Although we do not expect annual emissions from motor gasoline to change significantly over the forecast, they do vary noticeably within the year. Namely, motor gasoline emissions are typically highest during the summer season (the second and third quarters of the year) because this is a popular time for vacation and travel. We forecast 6% more motor gasoline CO_2 emissions for this period than in the first quarter and 3% more than in the fourth quarter for both 2024 and 2025.



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, June 2024

Weather

Our forecast assumes a warmer summer (June–September) in 2024 than in 2023, translating to more U.S. cooling degree days (CDDs). We expect 246 cooling degree days in June, 17% more CDDs than in June 2023, with 5% more CDDs in the entire summer of 2024 than in 2023. We also expect a warmer summer in 2025 with about 3% more CDDs during the summer in 2025 than during the same period in 2024. We expect a slightly cooler heating season this winter (November–March), with 6% more heating degree days (HDDs) overall. We expect 9% more HDDs in 4Q24 than in 4Q23 and 5% more HDDs in 1Q25 than in 1Q24.

Table 3a. World Petroleum and Other Liquid Fuels Production, Consumption, and Inventories

U.S. Energy Information Administration | Short-Term Energy Outlook - June 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Production (million barrels per day) (a)															
World total	**101.11**	**101.48**	**101.69**	**102.88**	**101.84**	**102.21**	**103.01**	**103.21**	**103.27**	**104.50**	**105.44**	**105.65**	**101.79**	**102.57**	**104.73**
Crude oil	77.10	76.60	76.19	77.15	76.58	76.44	76.83	77.35	77.76	78.29	79.03	79.34	76.76	76.80	78.61
Other liquids	24.00	24.88	25.50	25.72	25.26	25.78	26.18	25.86	25.51	26.21	26.41	26.31	25.03	25.77	26.12
World total	**101.11**	**101.48**	**101.69**	**102.88**	**101.84**	**102.21**	**103.01**	**103.21**	**103.27**	**104.50**	**105.44**	**105.65**	**101.79**	**102.57**	**104.73**
OPEC total (b)	32.77	32.46	31.63	31.88	32.02	31.97	32.05	32.06	32.13	32.40	32.70	32.51	32.18	32.03	32.44
Crude oil	27.38	27.23	26.37	26.58	26.63	26.71	26.75	26.72	26.85	27.11	27.42	27.23	26.89	26.70	27.15
Other liquids	5.40	5.22	5.26	5.30	5.40	5.27	5.30	5.33	5.28	5.28	5.28	5.28	5.29	5.32	5.28
Non-OPEC total	**68.33**	**69.02**	**70.06**	**71.00**	**69.82**	**70.24**	**70.96**	**71.15**	**71.14**	**72.10**	**72.75**	**73.14**	**69.61**	**70.55**	**72.29**
Crude oil	49.73	49.36	49.82	50.57	49.96	49.73	50.08	50.62	50.91	51.17	51.62	52.11	49.87	50.10	51.46
Other liquids	18.60	19.66	20.24	20.43	19.86	20.51	20.88	20.53	20.23	20.93	21.13	21.03	19.74	20.45	20.83
Consumption (million barrels per day) (c)															
World total	**100.93**	**101.94**	**102.35**	**102.38**	**102.17**	**102.48**	**103.57**	**103.70**	**103.97**	**104.10**	**104.91**	**105.05**	**101.90**	**102.98**	**104.51**
OECD total (d)	**45.22**	**45.67**	**46.02**	**46.08**	**45.34**	**44.99**	**46.25**	**46.41**	**45.85**	**45.45**	**46.32**	**46.47**	**45.75**	**45.75**	**46.02**
Canada	2.33	2.47	2.63	2.37	2.44	2.39	2.49	2.47	2.49	2.44	2.54	2.52	2.45	2.45	2.50
Europe	13.09	13.54	13.62	13.33	13.11	13.26	13.67	13.43	13.11	13.27	13.68	13.44	13.40	13.37	13.38
Japan	3.73	3.10	3.10	3.44	3.63	3.01	3.12	3.45	3.56	2.96	3.06	3.38	3.34	3.30	3.24
United States	19.66	20.38	20.37	20.56	19.80	20.11	20.73	20.70	20.33	20.57	20.80	20.76	20.25	20.34	20.62
U.S. Territories	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Other OECD	6.29	6.06	6.19	6.26	6.23	6.09	6.11	6.25	6.23	6.10	6.12	6.25	6.20	6.17	6.17
Non-OECD total	**55.71**	**56.27**	**56.33**	**56.30**	**56.83**	**57.50**	**57.33**	**57.29**	**58.13**	**58.65**	**58.59**	**58.58**	**56.16**	**57.24**	**58.49**
China	16.02	16.22	15.89	16.11	16.36	16.55	16.22	16.44	16.71	16.91	16.58	16.80	16.06	16.39	16.75
Eurasia	4.66	4.82	5.16	5.06	4.68	4.85	5.19	5.09	4.74	4.90	5.25	5.15	4.93	4.95	5.01
Europe	0.74	0.76	0.77	0.77	0.75	0.77	0.77	0.78	0.76	0.78	0.78	0.79	0.76	0.77	0.78
Other Asia	14.58	14.45	13.92	14.23	14.99	15.02	14.40	14.69	15.51	15.48	14.85	15.18	14.29	14.78	15.25
Other non-OECD	19.71	20.02	20.59	20.13	20.05	20.31	20.74	20.28	20.42	20.58	21.13	20.66	20.12	20.35	20.70
Total crude oil and other liquids inventory net withdrawals (million barrels per day)															
World total	**-0.18**	**0.46**	**0.66**	**-0.50**	**0.32**	**0.27**	**0.56**	**0.49**	**0.70**	**-0.40**	**-0.54**	**-0.60**	**0.11**	**0.41**	**-0.21**
United States	-0.08	-0.11	-0.25	0.30	0.14	-0.35	-0.10	0.26	0.02	-0.36	-0.11	0.29	-0.03	-0.01	-0.04
Other OECD	0.32	-0.02	-0.15	0.11	0.06	0.19	0.20	0.07	0.21	-0.01	-0.13	-0.27	0.06	0.13	-0.05
Other inventory draws and balance	-0.42	0.59	1.06	-0.91	0.12	0.43	0.46	0.16	0.47	-0.03	-0.30	-0.62	0.08	0.29	-0.12
End-of-period commercial crude oil and other liquids inventories (million barrels)															
OECD total	**2,746**	**2,782**	**2,815**	**2,774**	**2,746**	**2,752**	**2,733**	**2,697**	**2,676**	**2,710**	**2,732**	**2,730**	**2,774**	**2,697**	**2,730**
United States	1,231	1,264	1,283	1,252	1,230	1,253	1,253	1,223	1,221	1,254	1,264	1,237	1,252	1,223	1,237
Other OECD	1,515	1,517	1,531	1,522	1,516	1,499	1,480	1,474	1,455	1,456	1,468	1,493	1,522	1,474	1,493

(a) Includes crude oil, lease condensate, natural gas plant liquids, other liquids, refinery processing gain, and other unaccounted-for liquids. Differences in the reported historical production data across countries could result in some inconsistencies in the delineation between crude oil and other liquid fuels.

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

(c) Consumption of petroleum by the OECD countries is the same as "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.

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

Notes:

EIA completed modeling and analysis for this report on June 6, 2024.

- = no data available

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

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

Sources:

Historical data: Energy Information Administration *International Energy Statistics* (https://www.eia.gov/international/data/world).

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 - June 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Supply (million barrels per day)															
U.S. total crude oil production (a)	**12.63**	**12.75**	**13.07**	**13.26**	**12.94**	**13.17**	**13.33**	**13.50**	**13.51**	**13.68**	**13.76**	**13.88**	**12.93**	**13.24**	**13.71**
Alaska	0.44	0.43	0.40	0.43	0.43	0.41	0.39	0.42	0.42	0.40	0.38	0.41	0.43	0.41	0.40
Federal Gulf of Mexico (b)	1.87	1.77	1.94	1.87	1.79	1.82	1.81	1.82	1.88	1.89	1.86	1.88	1.86	1.81	1.88
Lower 48 States (excl GOM) (c)	10.31	10.55	10.73	10.96	10.73	10.95	11.13	11.26	11.21	11.39	11.52	11.59	10.64	11.02	11.43
Appalachia region	0.16	0.16	0.15	0.16	0.15	0.15	0.16	0.17	0.18	0.19	0.19	0.19	0.16	0.16	0.19
Bakken region	1.12	1.17	1.28	1.32	1.23	1.31	1.32	1.32	1.28	1.29	1.32	1.32	1.22	1.30	1.30
Eagle Ford region	1.15	1.19	1.20	1.16	1.09	1.03	1.09	1.13	1.12	1.14	1.16	1.16	1.17	1.08	1.15
Haynesville region	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Permian region	5.73	5.81	5.88	6.05	6.08	6.30	6.38	6.46	6.48	6.60	6.68	6.75	5.87	6.31	6.63
Rest of Lower 48 States	2.12	2.19	2.19	2.23	2.15	2.12	2.14	2.15	2.12	2.14	2.14	2.14	2.18	2.14	2.13
Total Supply	**19.67**	**20.38**	**20.37**	**20.56**	**19.80**	**20.11**	**20.73**	**20.70**	**20.33**	**20.57**	**20.80**	**20.76**	**20.25**	**20.34**	**20.62**
Crude oil input to refineries	**15.25**	**16.15**	**16.51**	**15.93**	**15.39**	**16.36**	**16.33**	**15.68**	**15.07**	**15.88**	**15.97**	**15.56**	**15.96**	**15.94**	**15.63**
U.S. total crude oil production (a)	12.63	12.75	13.07	13.26	12.94	13.17	13.33	13.50	13.51	13.68	13.76	13.88	12.93	13.24	13.71
Transfers to crude oil supply	0.39	0.51	0.70	0.58	0.50	0.45	0.50	0.46	0.44	0.49	0.52	0.49	0.55	0.48	0.49
Crude oil net imports (d)	2.27	2.51	2.61	2.29	2.12	2.36	2.15	1.57	1.14	1.38	1.31	1.05	2.42	2.05	1.22
SPR net withdrawals (e)	0.01	0.26	-0.04	-0.04	-0.10	-0.10	-0.10	-0.07	0.00	0.00	0.00	0.00	0.05	-0.09	0.00
Commercial inventory net withdrawals	-0.39	0.12	0.41	-0.10	-0.23	0.04	0.22	-0.05	-0.30	0.10	0.17	-0.09	0.01	-0.01	-0.03
Crude oil adjustment (f)	0.34	0.00	-0.22	-0.06	0.16	0.44	0.23	0.27	0.29	0.24	0.21	0.24	0.01	0.27	0.24
Refinery processing gain	**0.97**	**1.01**	**1.07**	**1.05**	**0.91**	**1.04**	**1.06**	**1.04**	**0.96**	**1.01**	**1.05**	**1.04**	**1.03**	**1.01**	**1.02**
Natural Gas Plant Liquids Production	**6.01**	**6.42**	**6.58**	**6.70**	**6.51**	**6.57**	**6.63**	**6.61**	**6.64**	**6.79**	**6.79**	**6.86**	**6.43**	**6.58**	**6.77**
Renewables and oxygenate production (g)	**1.24**	**1.29**	**1.31**	**1.35**	**1.34**	**1.36**	**1.38**	**1.41**	**1.41**	**1.43**	**1.43**	**1.46**	**1.30**	**1.37**	**1.44**
Fuel ethanol production	1.00	1.00	1.02	1.05	1.04	1.04	1.04	1.04	1.03	1.02	1.02	1.04	1.02	1.04	1.03
Petroleum products adjustment (h)	**0.20**	**0.22**	**0.23**	**0.23**	**0.21**	**0.21**	**0.22**	**0.22**	**0.20**	**0.21**	**0.21**	**0.21**	**0.22**	**0.21**	**0.21**
Petroleum products transfers to crude oil supply	**-0.39**	**-0.51**	**-0.70**	**-0.58**	**-0.50**	**-0.45**	**-0.50**	**-0.46**	**-0.44**	**-0.49**	**-0.52**	**-0.49**	**-0.55**	**-0.48**	**-0.49**
Petroleum product net imports (d)	**-3.91**	**-3.71**	**-4.03**	**-4.56**	**-4.53**	**-4.69**	**-4.16**	**-4.17**	**-3.83**	**-3.82**	**-3.85**	**-4.28**	**-4.06**	**-4.39**	**-3.94**
Hydrocarbon gas liquids	-2.47	-2.39	-2.42	-2.58	-2.59	-2.80	-2.58	-2.48	-2.69	-2.79	-2.67	-2.66	-2.46	-2.61	-2.70
Unfinished oils	0.28	0.27	0.22	0.18	0.09	0.34	0.40	0.32	0.30	0.38	0.41	0.32	0.24	0.29	0.35
Other hydrocarbons and oxygenates	-0.05	-0.07	-0.04	-0.05	-0.06	-0.09	-0.06	-0.06	-0.09	-0.08	-0.07	-0.08	-0.05	-0.07	-0.08
Motor gasoline blending components	0.45	0.67	0.57	0.41	0.40	0.57	0.57	0.39	0.59	0.73	0.76	0.45	0.52	0.48	0.63
Finished motor gasoline	-0.75	-0.58	-0.67	-0.81	-0.76	-0.76	-0.67	-0.75	-0.69	-0.62	-0.73	-0.84	-0.70	-0.73	-0.72
Jet fuel	-0.05	0.01	-0.05	-0.09	-0.09	-0.06	-0.06	-0.05	0.01	0.08	0.08	0.06	-0.05	-0.06	0.06
Distillate fuel oil	-0.76	-0.97	-1.01	-1.01	-0.86	-1.17	-1.11	-0.98	-0.68	-0.86	-0.95	-0.90	-0.94	-1.03	-0.85
Residual fuel oil	0.01	-0.04	-0.03	0.00	-0.03	-0.05	-0.03	0.05	0.02	0.02	-0.02	0.05	-0.01	-0.01	0.02
Other oils (i)	-0.58	-0.61	-0.59	-0.61	-0.64	-0.69	-0.62	-0.62	-0.60	-0.67	-0.66	-0.68	-0.60	-0.64	-0.65
Petroleum product inventory net withdrawals	**0.30**	**-0.49**	**-0.61**	**0.44**	**0.47**	**-0.29**	**-0.22**	**0.38**	**0.32**	**-0.46**	**-0.29**	**0.39**	**-0.09**	**0.09**	**-0.01**
Consumption (million barrels per day)															
U.S. total petroleum products consumption	**19.66**	**20.38**	**20.37**	**20.56**	**19.80**	**20.11**	**20.73**	**20.70**	**20.33**	**20.57**	**20.80**	**20.76**	**20.25**	**20.34**	**20.62**
Hydrocarbon gas liquids	3.40	3.36	3.25	3.81	3.80	3.31	3.43	3.87	3.87	3.40	3.50	3.93	3.46	3.60	3.67
Other hydrocarbons and oxygenates	0.22	0.28	0.28	0.28	0.30	0.30	0.31	0.35	0.35	0.36	0.36	0.39	0.27	0.32	0.37
Motor gasoline	8.67	9.13	9.05	8.93	8.57	9.02	9.12	8.83	8.65	9.05	9.06	8.76	8.94	8.89	8.88
Fuel ethanol blended into motor gasoline	0.90	0.94	0.94	0.94	0.88	0.94	0.95	0.94	0.90	0.95	0.95	0.94	0.93	0.93	0.93
Jet fuel	1.55	1.67	1.72	1.66	1.58	1.73	1.75	1.69	1.66	1.77	1.80	1.76	1.65	1.69	1.75
Distillate fuel oil	4.01	3.93	3.90	3.90	3.82	3.75	3.89	3.96	3.99	3.95	3.90	3.96	3.93	3.85	3.95
Residual fuel oil	0.29	0.22	0.27	0.31	0.28	0.28	0.28	0.31	0.29	0.29	0.28	0.31	0.27	0.29	0.29
Other oils (i)	1.53	1.79	1.89	1.67	1.44	1.73	1.94	1.70	1.53	1.76	1.90	1.66	1.72	1.70	1.71
Total petroleum and other liquid fuels net imports (d)	**-1.64**	**-1.20**	**-1.42**	**-2.28**	**-2.41**	**-2.33**	**-2.00**	**-2.60**	**-2.69**	**-2.44**	**-2.54**	**-3.23**	**-1.64**	**-2.34**	**-2.73**
End-of-period inventories (million barrels)															
Total commercial inventory	**1230.8**	**1264.4**	**1283.4**	**1252.2**	**1230.3**	**1253.0**	**1253.0**	**1222.8**	**1220.8**	**1253.6**	**1263.9**	**1236.8**	**1252.2**	**1222.8**	**1236.8**
Crude oil (excluding SPR)	465.4	454.7	417.5	426.4	447.2	443.7	423.4	428.2	454.9	446.3	430.3	438.8	426.4	428.2	438.8
Hydrocarbon gas liquids	174.3	225.4	279.1	223.3	169.2	211.7	251.9	208.2	171.9	225.5	266.2	225.2	223.3	208.2	225.2
Unfinished oils	88.6	87.0	88.3	84.1	91.7	87.9	86.8	79.6	88.8	86.8	86.6	80.7	84.1	79.6	80.7
Other hydrocarbons and oxygenates	34.3	30.1	30.3	33.2	38.2	35.6	35.3	35.6	37.6	36.4	36.1	36.4	33.2	35.6	36.4
Total motor gasoline	225.3	223.2	227.6	241.3	233.4	226.1	219.1	232.4	229.2	218.9	215.7	228.5	241.3	232.4	228.5
Finished motor gasoline	14.7	17.6	15.3	18.1	14.6	16.5	17.6	19.6	15.9	15.5	14.2	20.0	18.1	19.6	20.0
Motor gasoline blending components	210.6	205.6	212.3	223.2	218.8	209.6	201.5	212.8	213.2	203.4	201.4	208.5	223.2	212.8	208.5
Jet fuel	37.7	42.7	43.5	39.8	42.2	42.0	43.3	39.7	37.1	37.9	39.5	35.3	39.8	39.7	35.3
Distillate fuel oil	112.3	112.6	119.2	130.7	121.2	123.5	121.8	126.4	117.7	120.5	119.1	120.3	130.7	126.4	120.3
Residual fuel oil	29.6	30.4	27.5	24.1	29.9	28.1	26.1	25.7	27.0	26.9	25.0	24.5	24.1	25.7	24.5
Other oils (i)	63.3	58.3	50.5	49.3	57.3	54.2	45.3	47.0	56.4	54.5	45.5	47.1	49.3	47.0	47.1
Crude oil in SPR (e)	**371.2**	**347.2**	**351.3**	**354.7**	**363.9**	**373.2**	**382.5**	**388.8**	**388.8**	**388.8**	**388.8**	**388.8**	**354.7**	**388.8**	**388.8**

(a) Includes lease condensate.

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

(c) Regional production in this table is based on geographic regions and not geologic formations.

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

(e) SPR: Strategic Petroleum Reserve

(f) The crude oil adjustment equals the sum of disposition items (e.g. refinery inputs) minus the sum of supply items (e.g. production).

(g) 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.

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

(i) Other oils includes aviation gasoline blending components, finished aviation gasoline, kerosene, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt and road oil, still gas, and miscellaneous products.

Notes:

EIA completed modeling and analysis for this report on June 6, 2024.

- = no data available

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

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

Sources:

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 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 - June 2024

	2023				2024				2025				Year		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2023	2024	2025
Supply (billion cubic feet per day)															
U.S. total marketed natural gas production	**111.2**	**112.5**	**113.6**	**115.2**	**113.3**	**109.9**	**110.9**	**112.0**	**112.5**	**114.1**	**114.4**	**115.6**	**113.1**	**111.5**	**114.1**
Alaska	1.1	1.0	0.9	1.0	1.1	1.0	0.9	1.0	1.0	0.9	0.9	1.0	1.0	1.0	1.0
Federal Gulf of Mexico (a)	2.1	1.9	2.0	1.9	1.8	1.9	1.8	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9
Lower 48 States (excl GOM) (b)	108.0	109.6	110.7	112.2	110.3	107.0	108.2	109.1	109.5	111.2	111.7	112.7	110.1	108.7	111.3
Appalachia region	35.4	35.7	36.0	36.7	36.0	34.7	33.5	33.7	34.6	35.0	34.7	34.8	36.0	34.5	34.8
Bakken region	2.8	3.0	3.2	3.3	3.2	3.1	3.2	3.2	3.0	3.3	3.3	3.3	3.1	3.2	3.2
Eagle Ford region	6.7	6.7	6.8	6.9	6.9	6.7	6.8	6.9	6.7	6.9	7.1	7.1	6.8	6.8	7.0
Haynesville region	16.5	16.6	16.4	16.0	16.2	13.9	14.9	14.8	14.9	15.1	15.6	16.3	16.4	14.9	15.5
Permian region	21.7	22.5	23.1	23.9	23.3	23.2	23.9	24.6	24.6	25.5	25.8	26.1	22.8	23.7	25.5
Rest of Lower 48 States	24.9	25.0	25.1	25.4	24.6	25.4	25.8	26.0	25.6	25.4	25.2	25.0	25.1	25.5	25.3
Total primary supply	**103.0**	**78.0**	**83.9**	**91.7**	**104.0**	**76.7**	**83.6**	**93.2**	**105.1**	**78.1**	**83.2**	**93.2**	**89.1**	**89.4**	**89.9**
Balancing item (c)	0.4	-0.4	-1.4	-0.7	-0.1	-0.5	1.7	1.6	1.2	1.0	2.1	1.4	-0.5	0.7	1.5
Total supply	**102.6**	**78.4**	**85.3**	**92.4**	**104.1**	**77.2**	**81.9**	**91.6**	**103.9**	**77.1**	**81.1**	**91.8**	**89.6**	**88.7**	**88.4**
U.S. total dry natural gas production	102.3	103.2	104.1	105.6	103.9	100.4	101.4	102.5	102.9	104.3	104.7	105.7	103.8	102.1	104.4
Net inventory withdrawals	12.0	-11.7	-6.4	0.3	12.7	-9.8	-5.7	4.2	15.6	-11.1	-6.8	3.3	-1.5	0.3	0.2
Supplemental gaseous fuels	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Net imports	-11.8	-13.2	-12.6	-13.7	-12.8	-13.6	-13.9	-15.2	-14.9	-16.3	-17.0	-17.4	-12.8	-13.9	-16.4
LNG gross imports (d)	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.1
LNG gross exports (d)	11.4	11.8	11.4	13.0	12.4	11.2	11.6	13.4	13.7	13.8	14.4	15.3	11.9	12.1	14.3
Pipeline gross imports	8.4	7.3	7.9	8.2	9.0	6.8	7.2	7.5	8.3	7.0	7.2	7.5	8.0	7.6	7.5
Pipeline gross exports	8.9	8.7	9.2	8.9	9.4	9.2	9.5	9.3	9.5	9.5	9.9	9.6	9.0	9.4	9.6
Consumption (billion cubic feet per day)															
Total consumption	**103.0**	**78.0**	**83.9**	**91.7**	**104.0**	**76.7**	**83.6**	**93.2**	**105.1**	**78.1**	**83.2**	**93.2**	**89.1**	**89.4**	**89.9**
Residential	23.5	7.3	3.6	15.0	22.8	6.4	3.8	16.1	24.2	7.3	3.8	16.1	12.3	12.3	12.8
Commercial	14.5	6.4	4.7	10.7	14.3	6.2	5.2	11.3	14.8	6.7	5.2	11.3	9.1	9.2	9.5
Industrial	24.8	22.4	22.0	24.3	24.9	22.1	21.7	23.8	24.8	21.8	21.6	23.8	23.4	23.1	23.0
Electric power (e)	30.8	33.4	44.8	32.6	32.5	33.7	44.4	32.9	31.9	33.8	43.8	32.7	35.4	35.9	35.6
Lease and plant fuel	5.3	5.4	5.4	5.5	5.4	5.2	5.3	5.3	5.4	5.4	5.5	5.5	5.4	5.3	5.5
Pipeline and distribution	3.9	2.9	3.1	3.4	3.9	2.9	3.1	3.5	4.0	2.9	3.1	3.5	3.3	3.3	3.4
Vehicle	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
End-of-period working natural gas inventories (billion cubic feet) (f)															
United States total	**1,850**	**2,902**	**3,490**	**3,457**	**2,301**	**3,194**	**3,723**	**3,339**	**1,931**	**2,937**	**3,561**	**3,255**	**3,457**	**3,339**	**3,255**
East region	334	646	853	787	369	676	863	757	344	622	804	729	787	757	729
Midwest region	417	701	993	950	507	766	1,041	912	425	693	1,015	896	950	912	896
South Central region	919	1,138	1,092	1,183	1,002	1,194	1,207	1,157	832	1,130	1,182	1,143	1,183	1,157	1,143
Mountain region	79	171	239	228	168	216	246	208	125	192	239	205	228	208	205
Pacific region	74	216	278	280	231	314	331	275	180	273	289	253	280	275	253
Alaska	27	30	35	30	24	28	33	29	24	27	32	28	30	29	28

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

(b) Regional production in this table is based on geographic regions and not geologic formations.

(c) The balancing item is the difference between total natural gas consumption (NGTCPUS) and total natural gas supply (NGPSUPP).

(d) LNG: liquefied natural gas

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

(f) 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)* .

Notes:

EIA completed modeling and analysis for this report on June 6, 2024.

- = no data available

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

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

Sources:

Historical data: Latest data available from Energy Information Administration databases supporting the following reports: *Natural Gas Monthly* , DOE/EIA-0130; and *Electric Power Monthly* , DOE/EIA-0226.

Forecasts: EIA Short-Term Integrated Forecasting System.

News Release

REEF | RIDLEY ISLAND ENERGY EXPORT FACILITY

AltaGas | Vopak

ALTAGAS AND VOPAK REACH POSITIVE FINAL INVESTMENT DECISION ON RIDLEY ISLAND ENERGY EXPORT FACILITY

World class export facility will strengthen Canada's position as a growing global energy exporter

Calgary and Prince Rupert, Canada; Rotterdam, The Netherlands

29 May 2024 – 6:30pm Mountain Standard Time / 30 May 2024 – 3:30 Central European Time. All figures contained in the press release are in Canadian dollars unless otherwise stated.

AltaGas Ltd. ("AltaGas") (TSX: ALA) and **Royal Vopak ("Vopak") (XAMS: VPK)** (together the "Joint Venture", "Partners" or "Partnership") are pleased to announce a positive final investment decision (FID) on the Ridley Island Energy Export Facility (REEF), a large-scale liquefied petroleum gas (LPG) and bulk liquids terminal with rail, logistics and marine infrastructure on Ridley Island, British Columbia, Canada. Following a five-year environmental preparation and review process, extensive engagement with multiple stakeholders including Indigenous rights holders and local communities, the Joint Venture is set to deliver a world class export facility that will operate with industry-leading environmental stewardship.

KEY HIGHLIGHTS

- The Joint Venture has completed all major gating items, including front-end engineering design (FEED) and a detailed Class III capital estimate.
- Site clearing work is more than 95 percent complete and with required permits in hand, the project is expected to come online near 2026 year-end.
- Projected gross Joint Venture capital cost of $1.35 billion, excluding governmental incentives and support, with annual Partnership EBITDA of $185 million - $215 million are in-line with the Partners' expectations.
- Onsite work will be minimized to reduce capital cost risk and community impacts, with 90 percent of equipment, packaging and pipes expected to be prefabricated offsite in controlled operating environments.
- The Joint Venture expects to lock-in more than 60 percent of the Phase 1 capital costs through fixed-price, lump-sum engineering, procurement and fabrication contracts prior to construction.
- Vopak and AltaGas expect to fund their 50 percent pro-rata ownership through each company's respective financial capacity with no leverage at the Partnership level.
- REEF will enhance Canada's role as a growing global energy exporter, strengthen Canadian and Asia Pacific energy connectivity and provide Canadian producers and aggregators with access to the premium global markets for LPGs.
- With only ten shipping days to the fastest growing demand markets in Northeast Asia, REEF has a structural advantage in delivering LPGs to Asia with the shortest shipping time globally.

- The project has First Nations support agreements in place and will drive further economic benefits to local communities in Northwestern B.C. through construction activities, long-term job creation and community investment focused on delivering positive outcomes for all stakeholders.
- REEF will be constructed and operate under AltaGas and Vopak's existing exclusive rights granted by the Prince Rupert Port Authority (PRPA) to develop LPG, methanol and other bulk liquids exports on Ridley Island.

"This positive FID enables AltaGas to continue connecting Canadian energy to Asian markets and drive valuable outcomes for all our customers," said Vern Yu, President and CEO of AltaGas. "Canada has a structural advantage in delivering LPGs to Asia with the shortest shipping time and lowest maritime emissions footprint. AltaGas delivers more than 19 percent of Japan's propane and 13 percent of South Korea's LPG imports, connecting our upstream customers with customers in Asia. We look forward to working with our partners to drive more long-term value creation with REEF."

"We are excited to be able to execute on our growth strategy and invest in export infrastructure on this highly strategic location" said Dick Richelle, Chairman of the Executive Board and CEO of Royal Vopak. "Prince Rupert, with the shortest shipping distances between North America and Asia, gives the opportunity to drive progress by increasing the trade between Canada and the Asia Pacific region. We are proud to contribute to this development and are thankful for the good collaboration with our partner AltaGas and other key stakeholders. The trust and support of local First Nations and communities makes this envisioned terminal a reality."

Capital Cost, Economics, Funding and Delivery Schedule

Projected gross capital cost of $1.35 billion, excluding governmental incentives and support, and annual Partnership EBITDA of $185 million - $215 million are in-line with the Joint Venture's expectations. Vopak and AltaGas are expected to fund their pro-rata 50 percent ownership through each organization's respective financial capacity with no leverage at the Partnership level.

The capital cost breakdown of Phase 1 includes approximately $875 million for construction of the facility, balance of the plant and LPG storage tanks and $475 million for construction of the new dedicated jetty and extensive rail and logistics infrastructure. The infrastructure includes additional redundancies to provide operational flexibility that benefits the Joint Venture and customers over the long term.

AltaGas will minimize onsite work to reduce capital cost risk, with approximately 90 percent of equipment, packaging and pipes being prefabricated offsite in controlled operating environments. In addition, AltaGas expects to lock-in more than 60 percent of the Phase 1 estimated capital cost through fixed-price, lump-sum engineering, procurement and construction contracts, prior to the start of construction of individual phases.

The bulk of REEF's construction activities are planned to take place over 2025 and 2026 with select workstreams beginning in 2024. This includes plans for the Partners to incur approximately $200 million of incremental gross capital expenditures in 2024. As part of the positive FID, AltaGas is increasing its 2024 capital expenditure guidance from $1.2 billion to $1.3 billion. AltaGas maintains a disciplined approach to capital allocation and plans to fund its portion of the project using internally generated cash flows and its annual investment capacity. During construction, AltaGas will leverage the benefit of operating a diversified platform by adjusting capital spending across other parts of the business to ensure the company is balancing its three long-term objectives of financial strength and flexibility, continued organic growth, and long-term dividend growth.

Vopak's disciplined capital allocation policy is driving value through accretive growth investments that will deliver attractive operating cash return. Vopak's growth capex guidance for FY 2024 remains unchanged. The long-term commitment to invest EUR 1 billion to grow in industrial and gas by 2030 and EUR 1 billion to accelerate towards new energies by 2030 remains unchanged. Vopak plans to fund its portion of the project using the strong balance sheet position. The efficient use of the capital structure will further support cash flow generation at Vopak level.

REEF has strong community support following extensive stakeholder engagement

Vopak and AltaGas have been working closely with First Nations rights holders and key stakeholders, including the local communities in Northwestern British Columbia, as well as the PRPA, and Federal and Provincial regulators for more than five years to deliver a project that will operate with industry-leading environmental and community stewardship. AltaGas and Vopak have developed strong relationships with local Indigenous communities through its existing operations, where the partners have worked collaboratively on economic and social development opportunities, including skills training, emergency response preparedness and other community-identified priorities. REEF will drive strong economic benefits to these local communities in the region through construction activities, long-term job creation, and community investment targeted at driving positive economic outcomes across all stakeholders.

Vopak Conference Call

Vopak will host an analysts' presentation with Vopak's CFO, Michiel Gilsing via an on-demand audio webcast on Vopak's corporate website, details as follows:

- Date: 30 May 2024
- Time: 08:30 CEST
- Webcast Link: https://channel.royalcast.com/vopakinvestors/#!/vopakinvestors/20240530_1

APPENDIX:

Project Overview

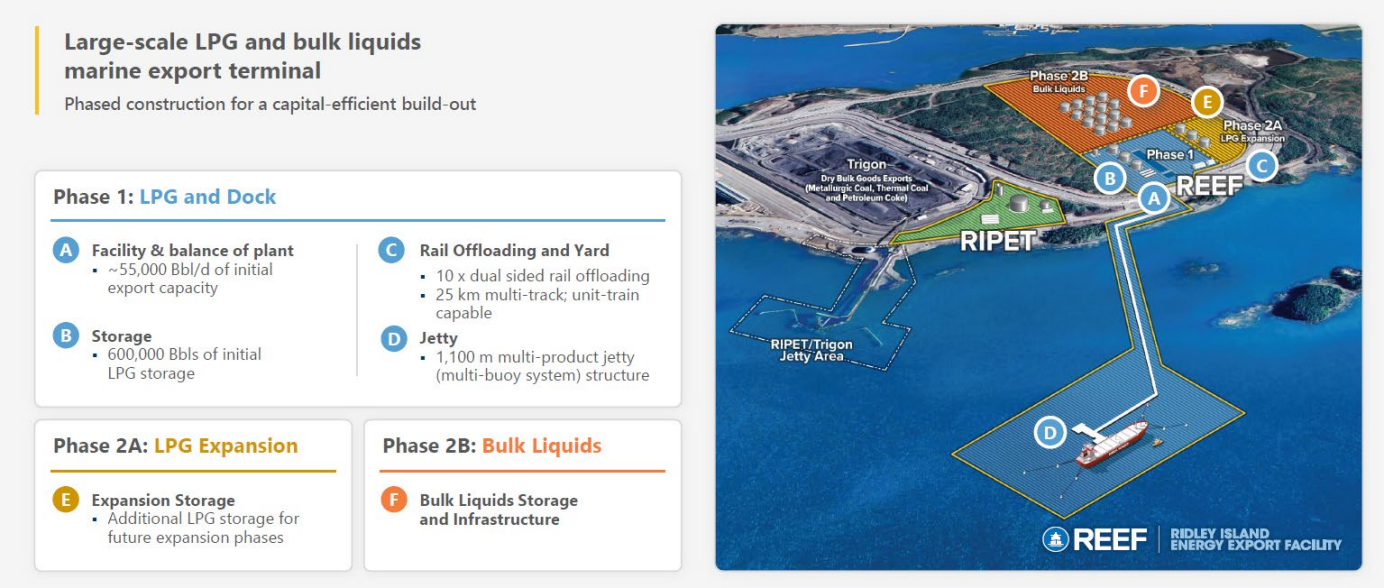
REEF will be developed on a 190-acre (77 hectare) site adjacent to AltaGas and Vopak's existing Ridley Island Propane Export Terminal (RIPET), on lands administered by the Port of Prince Rupert (PRPA) for which the Joint Venture has executed a long-term lease. REEF has been granted the key Federal and Provincial permits to construct storage tanks, a new dedicated jetty, rail and other infrastructure required to operate a state-of-the-art facility.

The project will have the capability to facilitate the export of LPGs, methanol and other bulk liquids that are vital for everyday life. The project will be developed and brought online in phases. This approach will provide the most capital efficient buildout of the project, match energy export supply with throughput capacity, mitigate impacts on local communities and provide local construction and employment opportunities that will extend over longer time horizons.

Phase 1 will include approximately 55,000 barrels a day of initial LPG export capacity, including propane and butane, 600,000 barrels of LPG storage (95 thousand cbm equivalent), a new dedicated multi-product jetty, and extensive rail and logistics infrastructure. The infrastructure will include 10 dual sided rail offloading slots and 25 kilometers of multi-track infrastructure that is unit-train capable and will provide flexibility to overcome congestion and outages. More than 80 percent of Phase 1 capital investments will be able to be leveraged in future REEF phases, providing capital efficient buildout of subsequent expansions. The REEF project design has multiple additional advantages compared to other recent large energy infrastructure projects in Canada, including being a single site and operating jurisdiction, having all major regulatory approvals in place, utilizing proven technologies and being aligned with the Partners' core competencies.

As disclosed in the first quarter of 2024, AltaGas has made considerable contracting progress across its global exports' platform, including tolling levels increasing to 56 percent starting in the second quarter of 2024. AltaGas is in active negotiations with several long-term counterparties, which would move the company to its long-term tolling target of 60 percent of total export volumes, for the beginning of the 2027 natural gas liquids (NGL) year, starting on April 1.

Figure 1: REEF Project Overview



REEF will be constructed under the Joint Venture's exclusive rights for LPG exports on Ridley Island

REEF will be constructed and operate under AltaGas and Vopak's existing exclusive rights granted by the PRPA to develop LPG, methanol and other bulk liquids exports on Ridley Island. The provision of these exclusive rights was important to ensure the certainty needed to advance large capital projects through long and fulsome development periods and ensure developers advance projects with comprehensive environmental and community stewardship.

REEF will have optionality for alternative fuels

In subsequent phases, the Joint Venture will have the option to progress evaluation work on fuels of the future, such as hydrogen, which has growing customer interest in Asia, particularly Japan and South Korea. The Joint Venture has strong core competencies in this area with Vopak offering one of the preeminent third-party hydrogen storage platforms globally, with multiple terminals in operation across several countries. Through this deep experience, the Partners will consider participation in hydrogen exports from Canada with evaluation work expected to be done methodically with a critical emphasis on safety and stewardship.

REEF benefits from structural west coast advantage to Asian markets

With only 10 shipping days to the fastest growing demand markets in Northeast Asia, REEF will be able to efficiently connect Canada's vital energy products to the world. This includes having an approximate 60 percent base time savings over the U.S. Gulf Coast, which requires a minimum 25-day shipping time to Northeast Asia, and approximately 45 percent base time savings over the Arabian Gulf, which requires a minimum 18-day shipping time. This geographic advantage expands when there is significant congestion in the Panama Canal, as has recently been experienced or when other global shipping pinch points experience disruptions.

AltaGas and Vopak are pleased to move forward with REEF. The REEF project advances Canada's growing role in connecting Canadian energy, vital to everyday life, to global markets. We are thankful to all stakeholders for their continued support and ongoing partnership.

Figure 2: REEF Geographic Location

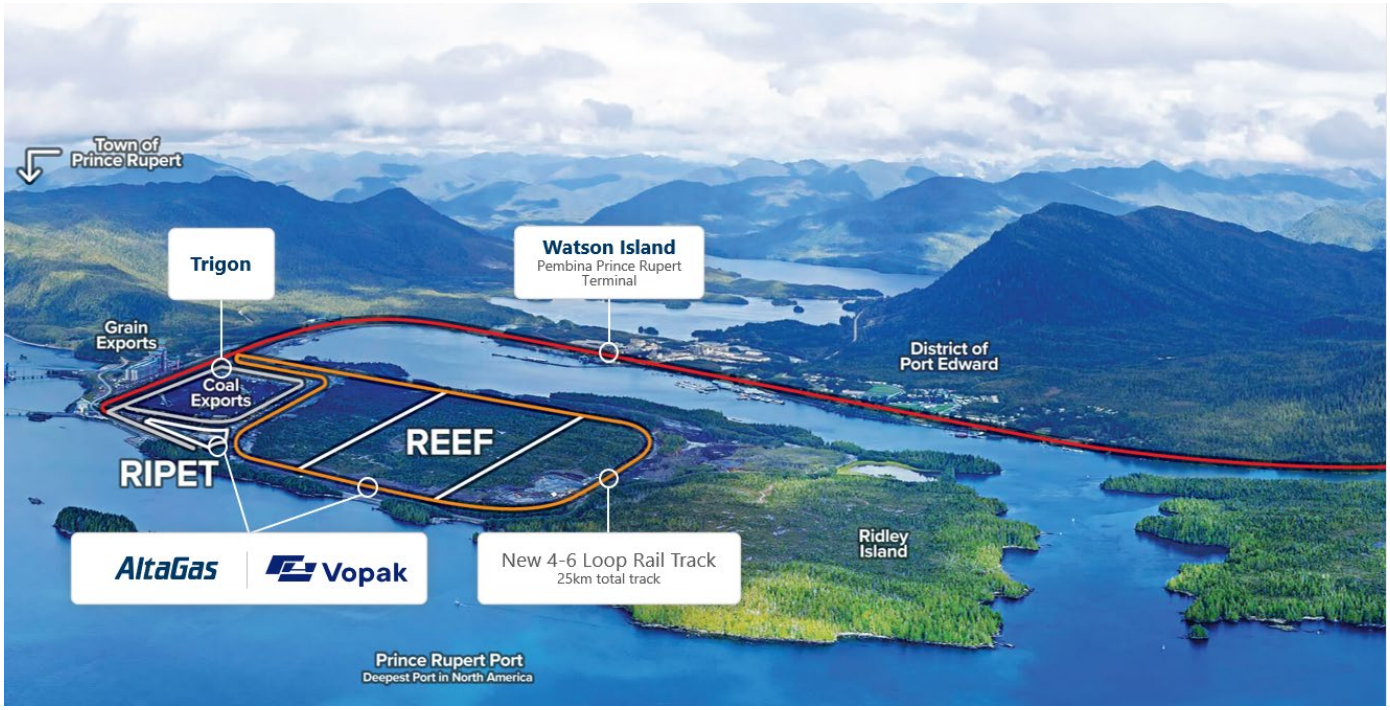


Figure 3: REEF Logistical Advantages

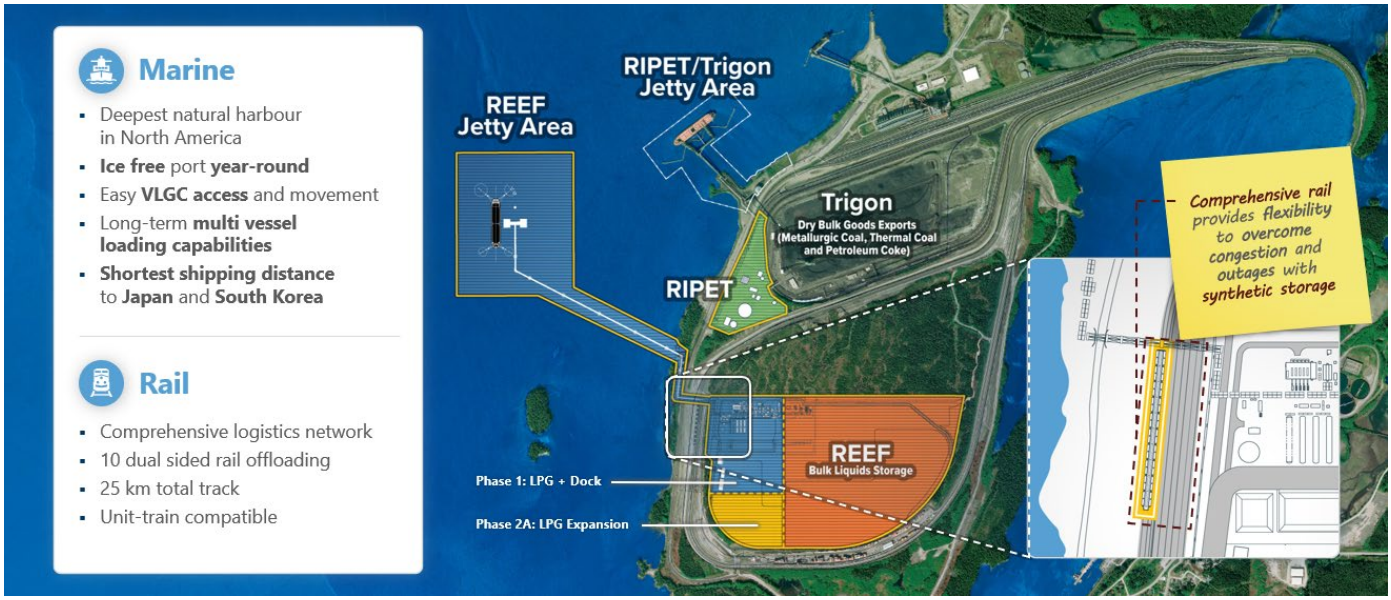
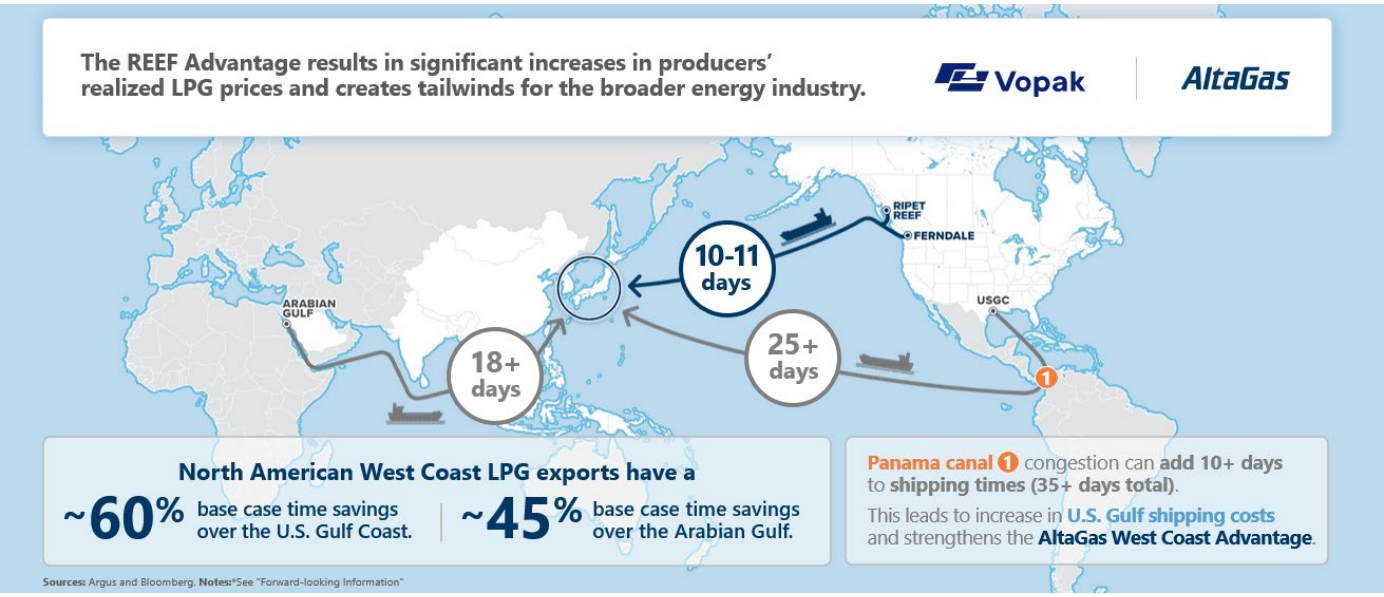


Figure 4: REEF and the West Coast Structural Advantage



About AltaGas

AltaGas is a leading North American infrastructure company that connects customers and markets to affordable and reliable sources of energy. The Company operates a diversified, lower-risk, high-growth Energy Infrastructure business that is focused on delivering resilient and durable value for its stakeholders.

From wellhead to tidewater, AltaGas' Midstream business is focused on providing its customers with safe and reliable service and connectivity that facilitates the best outcomes for their businesses. This includes global market access for North American LPGs, which provides North American producers and aggregators with the best netbacks for LPGs while delivering diversity of supply and stronger energy security to its downstream customers in Asia.

Throughout AltaGas' operations, the company is playing a vital role within the larger energy ecosystem that keeps the global economy moving forward and is powering the possible within our society, and in a safe, reliable, and affordable manner. For more information, please visit www.altagas.ca.

About Royal Vopak

Royal Vopak helps the world flow forward. At ports around the world, we provide storage and infrastructure solutions for vital products that enrich everyday life. These products include liquids and gases that provide energy for homes and businesses, chemicals for manufacturing products, and edible oils for cooking. For all of these, our worldwide network of terminals supports the global flow of supply and demand. For more than 400 years, Vopak has been at the forefront of fundamental transformations. With a focus on safety, reliability, and efficiency, we create new connections and opportunities that drive progress. Now more than ever, our talented people are applying this mindset to support the energy transition. Together with our partners and customers, we are accelerating the development of infrastructure solutions for hydrogen, ammonia, CO_2, long-duration energy storage, and low-carbon fuels & feedstocks – paving the way to a more sustainable future. Vopak is listed on the Euronext Amsterdam and is headquartered in Rotterdam, the Netherlands. For more information, please visit www.vopak.com.

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FORWARD-LOOKING INFORMATION

AltaGas Forward-Looking Information

This news release contains forward-looking information (forward-looking statements). Words such as "may", "can", "would", "could", "should", "will", "intend", "plan", "anticipate", "believe", "aim", "seek", "propose", "contemplate", "estimate", "focus", "strive", "forecast", "expect", "project", "target", "potential", "objective", "continue", "outlook", "vision", "opportunity" and similar expressions suggesting future events or future performance, as they relate to REEF, AltaGas, or any affiliate of AltaGas, are intended to identify forward-looking statements. In particular, this news release contains forward-looking statements with respect to, among other things, business objectives, expected growth, results of operations, performance, business projects and opportunities and financial results. Specifically, such forward-looking statements included in this document include, but are not limited to, statements with respect to the following: the expected timing of REEF coming online; the projected capital cost and Partnership EBITDA; potential governmental project funding support; expectations with respect to minimizing onsite work and effects on capital cost risk and community impacts; expected opportunities to lock in capital costs through lump-sum contracts; AltaGas' plans to fund its pro-rata portions of the project; the partners' belief that REEF will strengthen Canadian and Asia Pacific energy connectivity and provide Canadian producers with access to premium global markets for LPGs; anticipated economic benefits to local communities; expectation that REEF will operate with industry-leading environmental and community stewardship to deliver the strongest benefits to all stakeholders; REEF's evaluation of and future participation in hydrogen exports; the expected impact of REEF's structural advantage and outcomes therefrom, including time savings of North American West Coast LPG exports; the expected long-term benefits of the planned Phase I infrastructure; the anticipated timing of construction activities and capital expenditures; expectations of developing the project in phases and the benefits resulting therefrom in terms of maximizing capital efficiency, matching supply and demand, mitigating impacts on local communities, and providing long-term employment opportunities; planned infrastructure and capacity for Phase I; future abilities to leverage Phase I capital investments; descriptions of future phase buildouts; AltaGas' Midstream business focus, strategy and expected outcomes therefrom; AltaGas' expectation of REEF's ability to drive long-term value creation; AltaGas' long-term tolling targets; AltaGas' expectations of adjusting capital spending across other parts of its business to ensure AltaGas is balancing its long-term objectives; and the importance of AltaGas' role in the larger energy ecosystem and global economy.

These statements involve known and unknown risks, uncertainties and other factors that may cause actual results, events, and achievements to differ materially from those expressed or implied by such statements. Such statements reflect AltaGas' current expectations, estimates, and projections based on certain material factors and assumptions at the time the statement was made. Material assumptions include: effective tax rates, financing initiatives, expected commodity supply, demand and pricing, volumes and rates, exchange rates, inflation, interest rates, credit ratings, regulatory approvals and policies, future operating and capital costs, capacity expectations, weather, access to capital, timing of in-service dates of new projects, returns on investments, and dividend levels.

AltaGas' forward-looking statements are subject to certain risks and uncertainties which could cause results or events to differ from current expectations, including, without limitation: risks related to global conflict; health and safety risks; operating risks; infrastructure risks; natural gas supply risks; volume throughput; service interruptions; transportation of petroleum products; market risk; inflation;

general economic conditions; inflation; cyber security, information, and control systems; climate-related risks; environmental regulation risks; regulatory risks; litigation; changes in law; Indigenous and treaty rights; dependence on certain partners; political uncertainty and civil unrest; decommissioning, abandonment and reclamation costs; reputation risk; weather data; capital market and liquidity risks; interest rates; internal credit risk; foreign exchange risk; debt financing, refinancing, and debt service risk; counterparty and supplier risk; technical systems and processes incidents; growth strategy risk; construction and development risks; underinsured and uninsured losses; impact of competition in AltaGas' businesses; counterparty credit risk; composition risk; collateral; rep agreements; market value of common shares and other securities; variability of dividends; potential sales of additional shares; labor relations; key personnel; risk management costs and limitations; commitments associated with regulatory approvals for the acquisition of WGL; cost of providing retirement plan benefits; failure of service providers; risks related to pandemics, epidemics or disease outbreaks, including COVID-19; and the other factors discussed under the heading "Risk Factors" in the AltaGas' Annual Information Form for the year ended December 31, 2023 and set out in AltaGas' other continuous disclosure documents.

Many factors could cause AltaGas' or any particular business segment's actual results, performance or achievements to vary from those described in this press release, including, without limitation, those listed above and the assumptions upon which they are based proving incorrect. These factors should not be construed as exhaustive. Should one or more of these risks or uncertainties materialize, or should assumptions underlying forward-looking statements prove incorrect, actual results may vary materially from those described in this news release as intended, planned, anticipated, believed, sought, proposed, estimated, forecasted, expected, projected or targeted and such forward-looking statements included in this news release, should not be unduly relied upon. The impact of any one assumption, risk, uncertainty, or other factor on a particular forward-looking statement cannot be determined with certainty because they are interdependent and REEF's and AltaGas' future decisions and actions will depend on management's assessment of all information at the relevant time. Such statements speak only as of the date of this news release. REEF and AltaGas do not intend, and do not assume any obligation, to update these forward-looking statements except as required by law. The forward-looking statements contained in this news release are expressly qualified by these cautionary statements.

Financial outlook information contained in this news release about prospective financial performance, financial position, or cash flows is based on assumptions about future events, including economic conditions and proposed courses of action, based on AltaGas management's (Management) assessment of the relevant information currently available. Readers are cautioned that such financial outlook information contained in this news release should not be used for purposes other than for which it is disclosed herein.

Additional information relating to AltaGas, including its quarterly and annual MD&A and Consolidated Financial Statements, AIF, and press releases are available through AltaGas' website at www.altagas.ca or through SEDAR+ at www.sedarplus.ca.

Vopak Forward-Looking Information

Any statement, presentation or other information contained herein that relates to future events, goals or conditions is, or should be considered, a forward-looking statement. Although Vopak believes these forward-looking statements are reasonable, based on the information available to Vopak on the date such statements are made, such statements are not guarantees of future performance and readers are cautioned against placing undue reliance on these forward-looking statements. Vopak's outlook does not represent a forecast or any expectation of future results or financial performance.

The actual future results, timing and scope of a forward-looking statement may vary subject to (amongst others) changes in laws and regulations including international treaties, political and foreign exchange developments, technical and/or operational capabilities and developments, environmental and physical risks, (energy) resources reasonably available for our operations, developments regarding the potential capital raising, exceptional income and expense items, changes in the overall economy and market in which we operate, including actions of competitors, preferences of customers, society and/or the overall mixture of services we provide and products we store and handle.

Vopak does not undertake to publicly update or revise any of these forward-looking statements.

Aramco and NextDecade announce Heads of Agreement for the 1.2 MTPA Long-Term Offtake of LNG from the Rio Grande LNG Facility

Houston, Texas, USA and DHAHRAN, Saudi Arabia --June 13, 2024 – Aramco, one of the world's leading integrated energy and chemicals companies, and NextDecade Corporation (NextDecade) (Nasdaq: NEXT) announced today that their respective subsidiaries have executed a non-binding Heads of Agreement (HoA) for a 20-year liquefied natural gas sale and purchase agreement (LNG SPA) for offtake from Train 4 at the Rio Grande LNG Facility at the Port of Brownsville, Texas, USA.

Under the terms of the HoA, Aramco expects to purchase 1.2 million tonnes per annum (MTPA) of LNG for 20 years on a free on board basis, at a price indexed to Henry Hub. Aramco and NextDecade are currently in the process of negotiating a binding agreement, and once executed, the effectiveness of which will be subject to a positive Final Investment Decision on Train 4.

Nasir K. Al-Naimi, Aramco Upstream President, said: "We look forward to finalizing the terms of a long-term LNG offtake agreement with NextDecade, as we explore opportunities to expand our presence in international energy markets. We expect LNG to play an important role in meeting the rising demand for secure and efficient energy."

Matt Schatzman, NextDecade Chairman and Chief Executive Officer, said: "We are pleased to have reached a Heads of Agreement with Aramco for LNG from Train 4, as Aramco seeks to expand its LNG portfolio. We look forward to finalizing the LNG SPA with Aramco and to pursuing other opportunities together."

NextDecade is targeting FID of Train 4 in the second half of 2024, subject to finalizing and entering into an engineering, procurement and construction (EPC) contract, gaining appropriate commercial support, and obtaining adequate financing to construct Train 4 and related infrastructure.

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About Aramco

Aramco is a global integrated energy and chemicals company. We are driven by our core belief that energy is opportunity. From producing approximately one in every eight barrels of the world's oil supply to developing new energy technologies, our global team is dedicated to creating impact in all that we do. We focus on making our resources more dependable, more sustainable and more useful. This helps promote stability and long-term growth around the world. www.aramco.com

About NextDecade Corporation

NextDecade Corporation is an energy company accelerating the path to a net-zero future. Leading innovation in more sustainable LNG and carbon capture solutions, NextDecade is committed to providing the world access to cleaner energy. Through our subsidiaries Rio Grande LNG and NEXT Carbon Solutions, we are developing a 27 MTPA LNG export facility in South Texas along with one of the largest carbon capture and storage projects in North America. We are also working with third-party customers around the world to deploy our proprietary processes to lower the cost of carbon capture and storage and reduce CO_2 emissions at their industrial-scale facilities. NextDecade's common stock is listed on the Nasdaq Stock Market under the symbol "NEXT." NextDecade is headquartered in Houston, Texas. For more information, please visit www.next-decade.com.

Aramco Disclaimer

The press release contains forward-looking statements. All statements other than statements relating to historical or current facts included in the press release are forward-looking statements. Forward-looking statements give the Company's current expectations and projections relating to its capital expenditures and investments, major projects, upstream and downstream performance, including relative to peers. These statements may include, without limitation, any statements preceded by, followed by or including words such as "target," "believe," "expect," "aim," "intend," "may," "anticipate," "estimate," "plan," "project," "can have," "likely," "should," "could," and other words and terms of similar meaning or the negative thereof. Such forward-looking statements involve known and unknown risks, uncertainties and other important factors beyond the Company's control that could cause the Company's actual results, performance or achievements to be materially different from the expected results, performance, or achievements expressed or implied by such forward-looking statements, including the following factors: global supply, demand and price fluctuations of oil, gas and petrochemicals; global economic conditions; competition in the industries in which Saudi Aramco operates; climate change concerns, weather conditions and related impacts on the global demand for hydrocarbons and hydrocarbon-based products; risks related to Saudi Aramco's ability to successfully meet its ESG targets, including its failure to fully meet its GHG emissions reduction targets by 2050; conditions affecting the transportation of products; operational risk and hazards common in the oil and gas, refining and petrochemicals industries; the cyclical nature of the oil and gas, refining and petrochemicals industries; political and social instability and unrest and actual or potential armed conflicts in the MENA region and other areas; natural disasters and public health pandemics or epidemics; the management of Saudi Aramco's growth; the management of the Company's subsidiaries, joint operations, joint ventures, associates and entities in which it holds a minority interest; Saudi Aramco's exposure to inflation, interest rate risk and foreign exchange risk; risks related to operating in a regulated industry and changes to oil, gas, environmental or other regulations that impact the industries in which Saudi Aramco operates; legal proceedings, international trade matters, and other disputes or agreements; and other risks and uncertainties that could cause actual results to differ from the

forward-looking statements in this press release, as set forth in the Company's latest periodic reports filed with the Saudi Stock Exchange. For additional information on the potential risks and uncertainties that could cause actual results to differ from the results predicted please see the Company's latest periodic reports filed with the Saudi Stock Exchange. Such forward-looking statements are based on numerous assumptions regarding the Company's present and future business strategies and the environment in which it will operate in the future. The information contained in the press release, including but not limited to forward-looking statements, applies only as of the date of this press release and is not intended to give any assurances as to future results. The Company expressly disclaims any obligation or undertaking to disseminate any updates or revisions to the press release, including any financial data or forward-looking statements, whether as a result of new information, future events or otherwise, unless required by applicable law or regulation. No person should construe the press release as financial, tax or investment advice. Undue reliance should not be placed on the forward-looking statements.

NextDecade Disclaimer

This press release contains forward-looking statements within the meaning of U.S. federal securities laws. The words "anticipate," "contemplate," "estimate," "expect," "project," "plan," "intend," "believe," "may," "might," "will," "would," "could," "should," "can have," "likely," "continue," "design," "assume," "budget," "guidance," "forecast," and "target," and other words and terms of similar expressions are intended to identify forward-looking statements, and these statements may relate to the business of NextDecade and its subsidiaries. These statements have been based on assumptions and analysis made by NextDecade in light of current expectations, perceptions of historical trends, current conditions and projections about future events and trends and involve a number of known and unknown risks, which may cause actual results to differ materially from expectations expressed or implied in the forward-looking statements. Although NextDecade believes that the expectations reflected in these forward-looking statements are reasonable, it can give no assurance that the expectations will prove to be correct. NextDecade's actual results could differ materially from those anticipated in these forward-looking statements as a result of a variety of factors, including those discussed in NextDecade's periodic reports that are filed with and available from the Securities and Exchange Commission. Additionally, any development of subsequent trains at the Rio Grande LNG Facility or CCS projects remains contingent upon execution of definitive commercial and financing agreements, securing all financing commitments and potential tax incentives, achieving other customary conditions and making a final investment decision to proceed. The forward-looking statements in this press release speak as of the date of this release. NextDecade may from time to time voluntarily update its prior forward-looking statements, however, it disclaims any commitment to do so except as required by securities laws.

For Immediate Release
June 14, 2024
Lynn Helms, Ph.D., Director ND Department of Mineral Resources

NORTH Dakota | Mineral Resources
Be Legendary.™

North Dakota Department of Mineral Resources June 2024 Director's Cut and April 2024 Production Numbers

Oil Production Numbers

March	38,115,722 barrels	= 1,229,539 barrels/day (final) **RF +12%**
New Mexico	**61,111,836 barrels**	= 1,971,350 **+1.7%**
April	37,233,192 barrels	= 1,241,106 barrels/day **+1.0%** **RF +13%**
	1,519,037	all-time high Nov 2019
	1,207,776 barrels/day	= 97% from Bakken and Three Forks
	33,330 barrels/day	= 3% from Legacy Pools

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

Crude Price ($barrel)	ND Light Sweet	WTI	ND Market	
March	70.53	77.25	73.55	**RF +5%**
April	76.01	85.35	78.04	**RF +11%**
Today	71.50	78.62	75.06	**RF +7% est**
All-time high (6/2008)	125.62	134.02	126.75	
Revenue Forecast			**70.00**	

Gas Production and Capture

March	105,169,008	=	3,392,549 MCF/Day	
MCF				
95% Capture	99,881,958 MCF	=	3,221,999 MCF/Day	
April	104,714,280 MCF	=	3,490,476 MCF/Day	**+3%**
95% Capture	99,843,115 MCF	=	3,328,104 MCF/Day	

3,582,821 MCF/day all-time high production Dec 2023

3,355,110 MCF/day all-time high capture Dec 2023

Wells Permitted

March	72	
April	79	
May	95	All-time high 370 in 10/2012

Rig Count

March	40	
April	38	
May	37	
Today	38	All-time high 218 on 5/29/2012
Federal Surface	0	
New Mexico	109	

Waiting on Completions

March	345
April	352

Inactive

March	1,949
April	1,522

Completed

March	56
April	56 (Preliminary)
May	67 (Preliminary)

Producing

March	18,864	
April	18,962 (Preliminary)	**NEW** All-time high 18,962 April/2024
	16,767 wells	89% are now unconventional Bakken/Three Forks Wells
	2,097 wells	11% 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	17	0
June	12	1
July	15	5
August	15	13
September	0	14
October	0	10
November	0	0
December	0	1
January	0	0
February	0	0
March	0	0
Total	73	44

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

Fort Berthold Reservation Activity

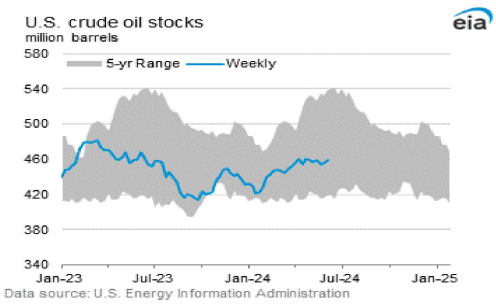
	Total	Fee Land	Trust Land
Oil Production (barrels/day)	203,282	73,311	129,971
Drilling Rigs	3	1	2
Active Wells	2,920	694	2,226
Waiting on Completion	9		
Approved Drilling Permits	126	5	121
Potential Future Wells	1,763	566	1,197

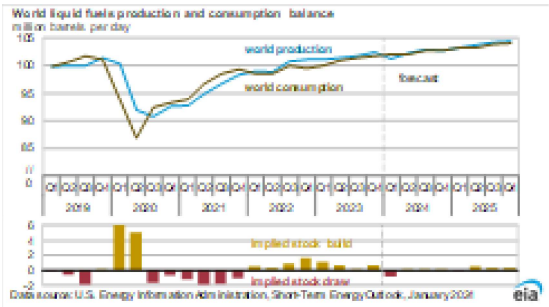
Comments:

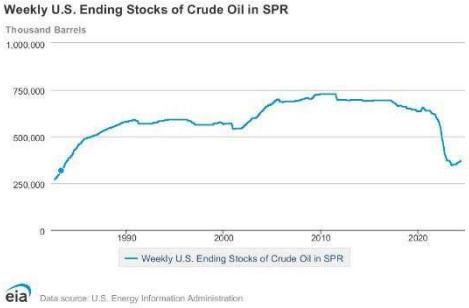
The drilling rig count remains low due to load limits, mergers, and acquisitions but is expected to return to the mid-forties with a gradual increase expected over the next 2 years.

There are 15 frac crews currently active.

Saudi Arabia and Russia announced continued oil production cuts. Middle East conflict, Russia sanctions, China economic activity, potential recessions, and shifting 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, now anticipated in 2025.

Drilling - activity is expected to increase slightly and operators continue 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, 0 pending.

US natural gas storage is 31% above the five-year average. US and world crude oil inventories are about average and the US strategic petroleum reserve remains at the lowest levels since 1985.

The price of natural gas delivered to Northern Border at Watford City is $2.16/MCF still at 20-year lows. There is continued oversupply in the Midwest US and the Biden Administration's decision to suspend LNG export permitting has created a huge nationwide oversupply. Current oil to gas price ratio is 35:1. The state-wide gas flared volume from March to April decreased 8.2 MMCFD to 162.4 MMCF per day, the statewide gas capture remained 95% while Bakken gas capture was increased to 96%. The historical high flared percent was 36% in 09/2011.

MONTHLY UPDATE

JUNE 2024 PRODUCTION & TRANSPORTATION

Published: June 14, 2024

Justin J. Kringstad, Director

North Dakota Pipeline Authority

Office: 701.220.6227

www.northdakotapipelines.com

MONTHLY UPDATE

JUNE 2024 PRODUCTION & TRANSPORTATION

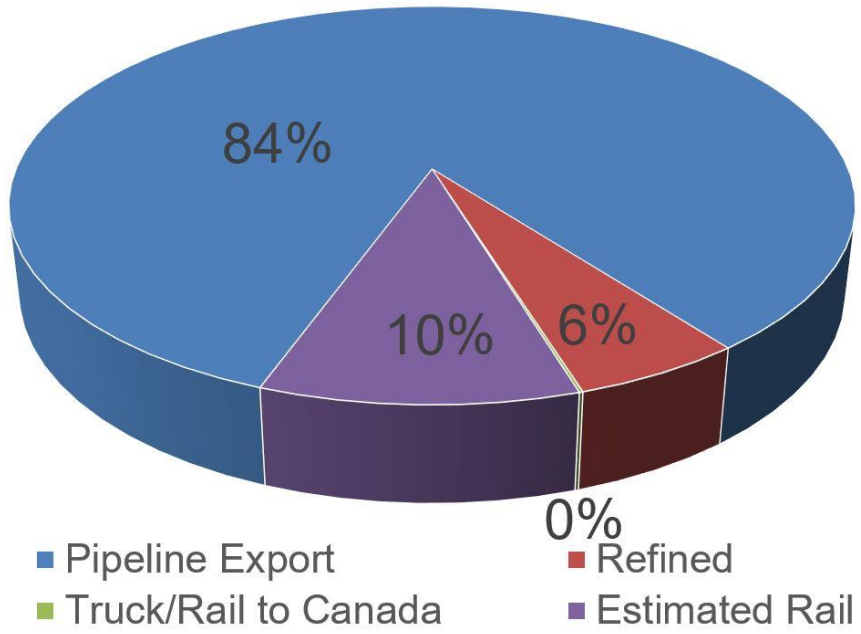
North Dakota Oil Production

Month	Monthly Total, BBL	Average, BOPD
Mar. 2024 - Final	38,115,722	1,229,539
Apr. 2024 - Prelim.	37,233,192	1,241,106

North Dakota Natural Gas Production

Month	Monthly Total, MCF	Average, MCFD
Mar. 2024 - Final	105,169,008	3,392,549
Apr. 2024 - Prelim.	104,714,280	3,490,476

Estimated Williston Basin Oil Transportation, Apr. 2024



CURRENT DRILLING ACTIVITY:

NORTH DAKOTA[1]

37 Rigs

EASTERN MONTANA[2]

2 Rigs

SOUTH DAKOTA[2]

0 Rigs

SOURCE (JUNE 13, 2024):

1. ND Oil & Gas Division
2. Baker Hughes

PRICES:

Crude (WTI): $77.89

Crude (Brent): $82.07

NYMEX Gas: $2.92

SOURCE: BLOOMBERG (JUNE 13, 2024 4PM EST)

GAS STATS*

95% CAPTURED & SOLD

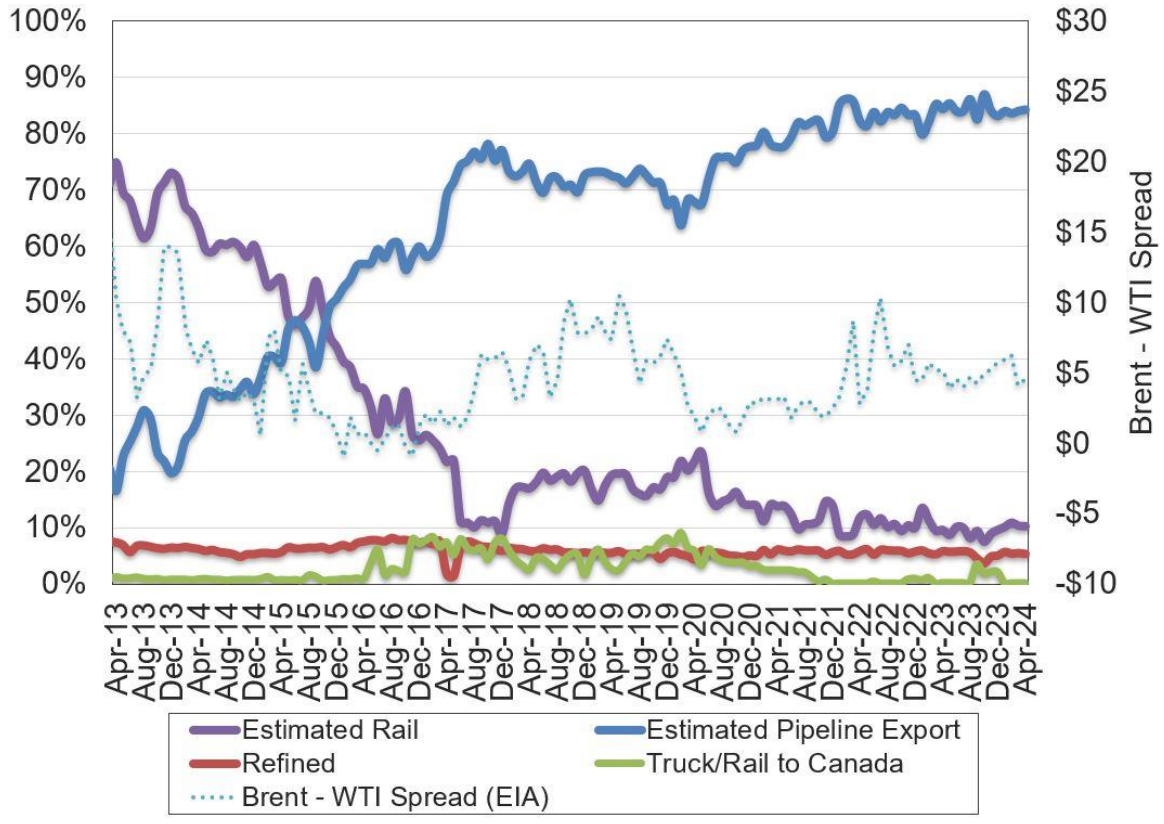
4% FLARED DUE TO CHALLENGES OR CONSTRAINTS ON EXISTING GATHERING SYSTEMS

1% FLARED FROM WELL WITH ZERO SALES

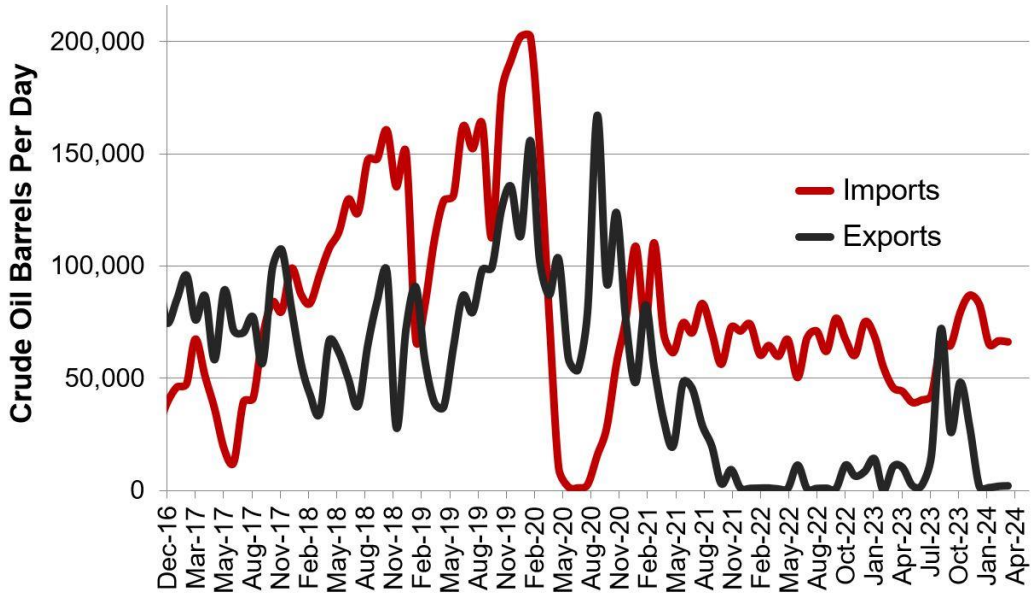
APR 2024 NON-CONF DATA

Estimated North Dakota Rail Export Volumes

Estimated Williston Basin Oil Transportation

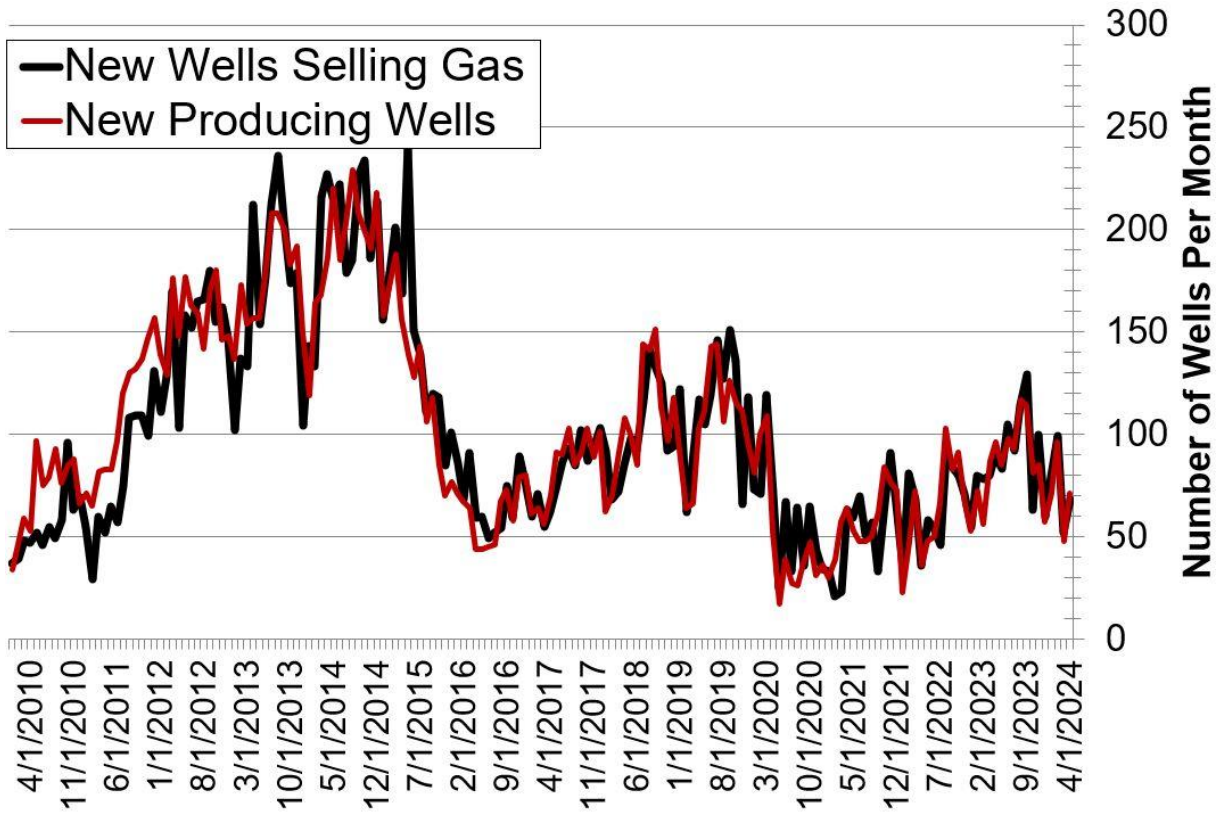


Williston Basin Truck/Rail Imports and Exports with Canada



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

2023

MONTH	ND	EASTERN MT*	SD	TOTAL
January	1,062,924	62,114	2,610	1,127,648
February	1,158,988	63,558	2,475	1,225,021
March	1,124,917	64,596	2,652	1,192,165
April	1,135,872	61,933	2,557	1,200,362
May	1,140,253	61,302	2,560	1,204,115
June	1,174,603	59,742	2,275	1,236,620
July	1,187,084	56,986	2,311	1,246,381
August	1,219,832	62,381	2,540	1,284,753
September	1,290,356	62,811	2,504	1,355,671
October	1,255,517	62,610	2,452	1,320,579
November	1,279,103	63,089	2,448	1,344,641
December	1,275,004	63,259	2,496	1,340,759

2024

MONTH	ND	EASTERN MT*	SD	TOTAL
January	1,103,017	59,066	2,312	1,164,394
February	1,252,102	65,517	2,411	1,320,030
March	1,229,539	68,957	2,589	1,301,085
April	1,241,106			
May				
June				
July				
August				
September				
October				
November				
December				

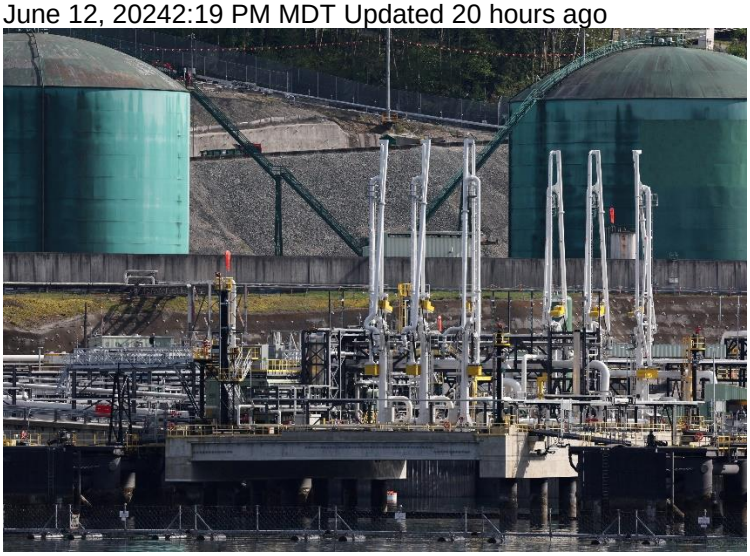
**** Eastern Montana production composed of the following Counties: Carter, Daniels, Dawson, Fallon, McCone, Powder River, Prairie, Richland, Roosevelt, Sheridan, Valley, Wibaux***

https://www.reuters.com/business/energy/trans-mountain-pipeline-running-80-full-load-22-oil-tankers-vancouver-2024-06-12?taid=666a31d52a41ff0001cd415f&utm_campaign=trueAnthem:+Trending+Content&utm_medium=trueAnthem&utm_source=twitter

Trans Mountain pipeline running 80% full, to load 22 oil tankers in Vancouver

By Nia Williams

June 12, 20242:19 PM MDT Updated 20 hours ago



Westridge Marine Terminal, the terminus of the Canadian government-owned Trans Mountain pipeline expansion project in Burnaby, as seen from Cates Park in North Vancouver, British Columbia, Canada, April 26, 2024. REUTERS/Chris Helgren/File Photo *Purchase Licensing Rights, opens new tab*

June 12 (Reuters) - Twenty-two oil tankers are scheduled to load this month in Vancouver with crude from the expanded Trans Mountain pipeline, which is running around 80% full with a "little bit" of spot capacity also being used, a Trans Mountain executive said on Wednesday.

Speaking with Reuters six weeks after the C$34.2 billion ($24.94 billion) project started commercial operations, Trans Mountain Corp's chief financial and strategy officer Mark Maki said so far the system is operating as expected and final costs for the expansion are not expected to rise significantly.

The Trans Mountain expansion, which tripled pipeline capacity from Alberta to Canada's Pacific Coast to 890,000 barrels per day (bpd) started commercial operations on May 1 and traders are closely watching flows to gauge demand.

Eighty percent, or 707,000 bpd, of the pipeline's capacity is reserved for long-term contracted shippers, while the remaining 20% is available to spot barrels.

"We're basically running at effectively right around contract level with a little bit of spot on the system," Maki said, adding that volumes were expected to rise towards winter.

Maki said there were 22 tankers scheduled to load at Westridge dock, the pipeline's terminus in the Port of Vancouver, in June.

Traders and shipping sources had been concerned that logistical constraints at the port could limit tanker loadings at Westridge to less than 20 a month.

So far the marine facility is performing well, Maki added, although the company had to work through some start-up issues on one piece of equipment known as a vapor recovery unit, which removes unwanted vapors from crude.

"The dock facility is working as we'd expected. There are a few things of course you've got to break in and get running right, but we're happy with where we're at," Maki said.

The pipeline is owned by the Canadian government, which has been criticized for the cost of the expansion ballooning to nearly five times its 2017 budget estimate.

Maki said post-construction remediation work is still ongoing but Trans Mountain Corp would have a final cost in place by the end of this year and it would likely be "very, very close" to C$34 billion dollars.

He also said it was unlikely Trans Mountain would need to further increase a C$19 billion loan facility agreed with a syndicate of commercial banks and guaranteed by the Canadian government, unless it was for a transitory purpose like issuing bonds.

"If we do it would probably be transitory and not a particularly large increase," Maki said.

06/13/2024 15:27:27 [BFW] Bloomberg First Word

BP Whiting Advances Work on Biggest CDU to July From September

By Barbara Powell

(Bloomberg) -- BP's Whiting, Indiana, refinery plans to conduct a turnaround beginning late July on the 255k b/d Pipestill 12 crude unit and the largest coker, people familiar with operations said.

- The work on the largest of three crude units and its 95k b/d companion coker is scheduled to extend into early September with additional days needed to restore operations to normal
- The turnaround was originally scheduled to begin in early September and run for 2 months
- No reason given for advancing the work
- The last turnaround for Pipestill 12 occurred in September and November 2018
    - The crude unit was converted in 2013 to process mostly heavy Canadian oil
- The shutdown of the biggest crude unit, coming in the middle of the summer gasoline season, could tighten Midwest fuel supplies, sending regional gasoline prices higher at the pump and margins higher
- No immediate response to email sent to BP seeking comment
- Whiting, the largest US inland refinery, has a total crude processing capacity of 435k b/d: EIA

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06/11/2024 07:53:42 [BN] Bloomberg News

Russian Crude Exports Rise to Bring Prolonged Slide to a Halt

Jump comes despite Moscow's pledge to OPEC+ partners to cut production

By Julian Lee

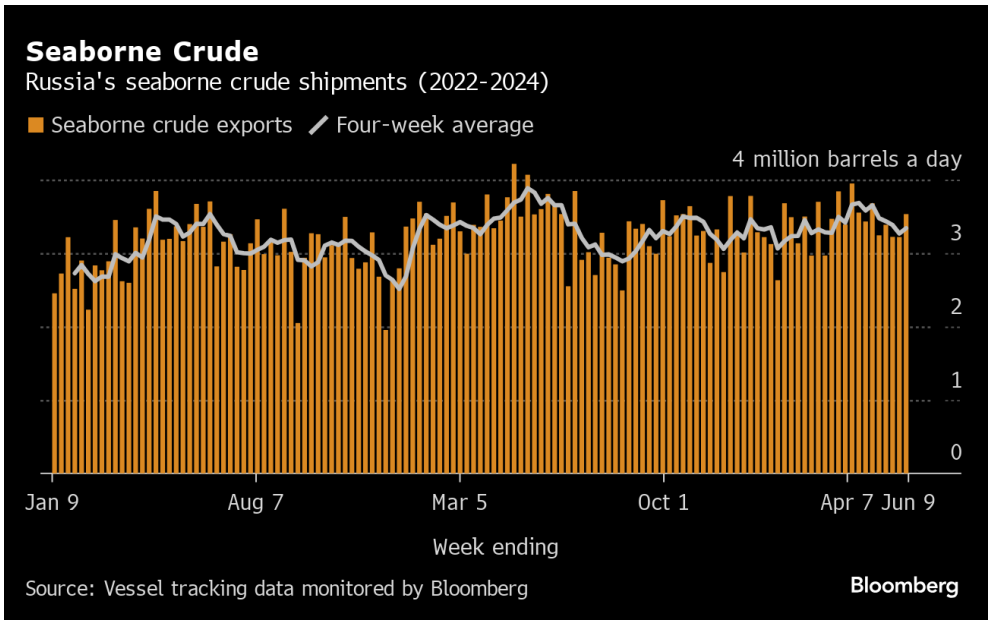
(Bloomberg) -- Russia's four-week average crude exports ticked up in the period to June 9, ending a run of declines.

Exports had fallen in each of the previous four weeks on that measure, producing a cumulative cut of 390,000 barrels a day, or 11%. That was the biggest such reversal since November. The gain of 70,000 barrels a day in the latest number was driven by a jump in weekly shipments to a five-week high.

Overseas crude flows have been tracking below year-earlier levels since late April, with the gap widening to as much as half a million barrels a day before the latest uptick. This may be due to Russia more diligently adhering to an output target that's part of an effort by the OPEC+ producers to support the market, or it could reflect pressure from international sanctions.

Moscow has pledged to compensate for exceeding its April output target, which it blamed on the "technicalities" of achieving significant cuts. But, though it made the deepest reductions in more than a year, Russia still pumped above its promised level last month.

Despite the increase in weekly export volumes, a sharp week-on-week drop in oil prices that followed the announcement of a gradual easing of some OPEC+ output restrictions from October limited the increase in the gross value of Russia's shipments to just 4% in the seven days to June 9.



The Kremlin continues to test US-led restrictions on its oil shipments.

A third sanctioned Russian tanker loaded crude at Novorossiysk in the week to June 9. The Belgorod, until recently named the NS Bravo, took on about 1 million barrels of Urals crude on June 7 and is now in the East Mediterranean, headed for the Suez Canal. The first sanctioned vessel to load, the SCF Primorye, made a hidden transfer of its cargo onto another vessel east of Singapore. The second, the Bratsk, is in the Indian Ocean, heading toward Singapore.

If the cargoes ultimately end up being delivered to oil refineries, it could pave the way for more of the sanctioned tankers owned by state-controlled Sovcomflot PJSC to return to work. The company has now renamed at least 11 of its 21 ships that were listed by the US Treasury Department for breaching a G7-led price cap on Russian oil. All 21 now fly the Russian flag.

Crude Shipments

A total of 32 tankers loaded 24.72 million barrels of Russian crude in the week to June 9, vessel-tracking data and port agent reports show. That was up from 22.53 million barrels the previous week.

Tankers Loading Crude at Russian Terminals
32 tankers loaded Russian crude in the week to June 9

Week ending	June 9	June 2	May 26
Primorsk (Baltic)	8	9	8
Ust-Luga (Baltic)	4	5	6
Novorossiysk (Black Sea)	5	2	3
Murmansk (Arctic)	2	3	1
Kozmino (Pacific)	10	8	9
De Kastri (Pacific)	3	1	2
Prigorodnoye (Pacific)	0	1	1
Total	**32**	**29**	**30**

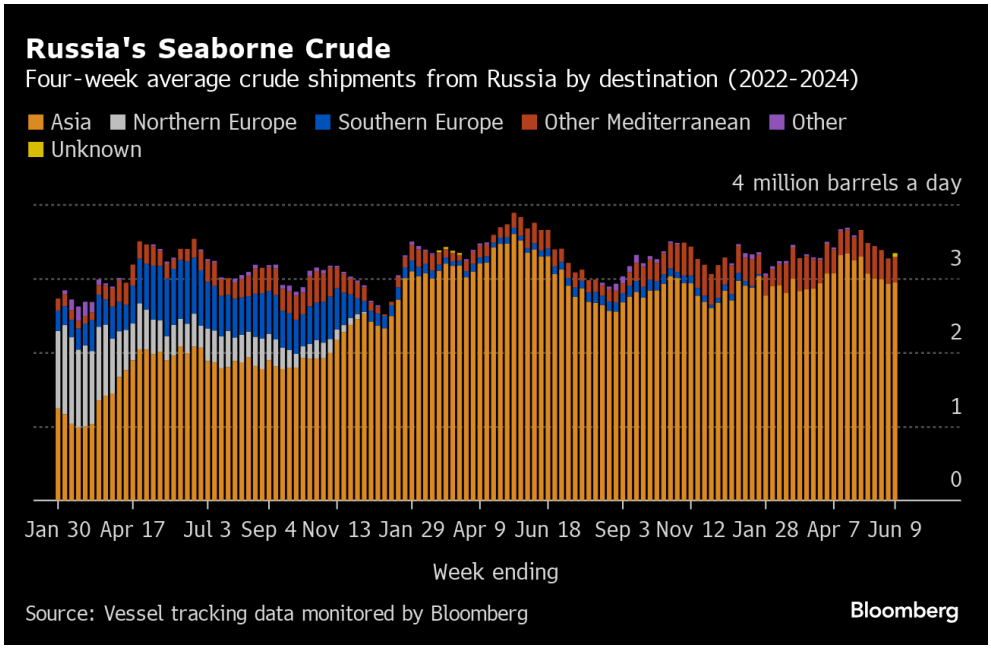
Source: Vessel tracking data monitored by Bloomberg
Note: Based on date of completion of cargo loading. Excludes ships loading cargoes identified as Kazakhstan's KEBCO grade.
Bloomberg

Russia's seaborne crude flows in the week to June 9 rose by 10% to 3.53 million barrels a day. The less volatile four-week average was also up, increasing by about 70,000 barrels a day to 3.34 million, the first increase in five weeks.

A week-on-week increase in shipments from the Black Sea port of Novorossiysk and the Pacific ports of Kozmino and De Kastri was partly offset by fewer departures from the Baltic Sea, Arctic terminals at Murmansk and the Sakhalin Island terminal of Prigorodnoye.

Two shuttle tankers used to haul crude from Russia's Sakhalin-2 project have failed to move cargoes since April, putting the entire burden of shipments on a single vessel. Unless at least one of them is brought back into service soon, the Sakhalin-2 project will struggle to keep delivering at its normal rate of three to four cargoes a month.

Crude shipments so far this year are running about 10,000 barrels a day above the average for 2023.



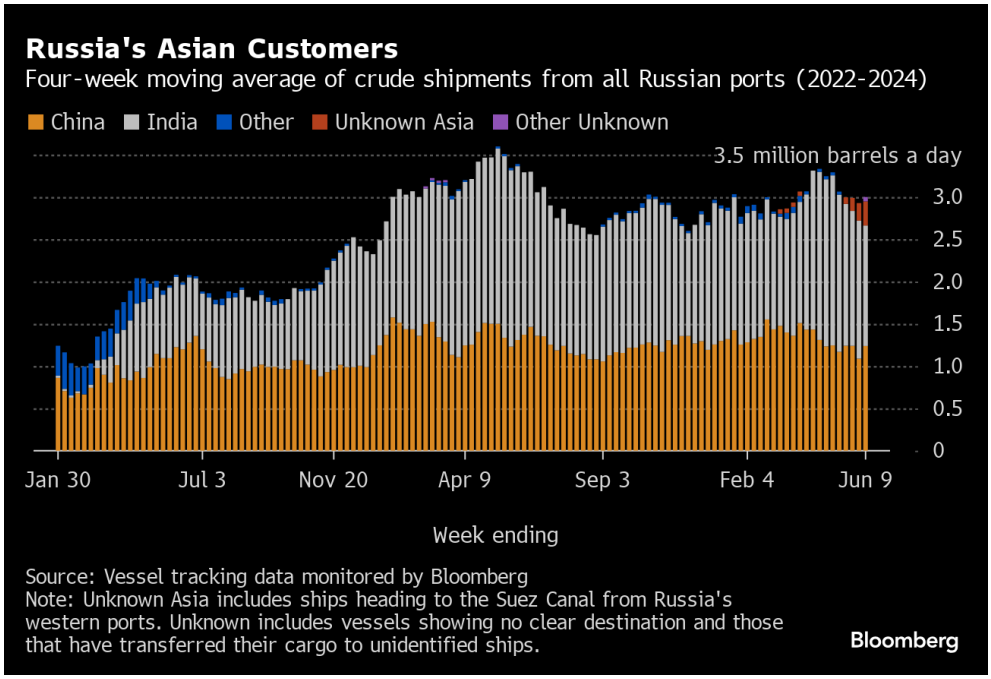
Russia terminated its export targets at the end of May, opting instead to restrict production, in line with its partners in the OPEC+ oil producers' group. The country's output target is set at 8.978 million barrels a day until the end of September, after which it is set to rise at a rate of 39,000 barrels a day each month until September 2025, as long as market conditions allow.

One cargo of Kazakhstan's KEBCO was loaded at Ust–Luga during the week.

Flows by Destination

- **Asia**

Observed shipments to Russia's Asian customers, including those showing no final destination, rebounded to 3 million barrels a day in the four weeks to June 9, from 2.93 million in the four–week period to June 2.



About 1.24 million barrels a day of crude was loaded onto tankers heading to China. The Asian nation's seaborne imports are boosted by about 800,000 barrels a day of crude delivered from Russia by pipeline, either directly, or via Kazakhstan.

Flows on ships signaling destinations in India averaged about 1.43 million barrels a day, compared with a revised 1.63 million barrels a day in the period to June 2.

Both the Chinese and Indian figures are likely to rise as the discharge ports become clear for vessels that are not currently showing final destinations.

The equivalent of about 285,000 barrels a day was on vessels signaling Port Said or Suez in Egypt. Those voyages typically end at ports in India or China and show up as "Unknown Asia" until a final destination becomes apparent.

The "Other Unknown" volumes, running at about 50,000 barrels a day in the four weeks to June 9, are those on tankers showing no clear destination. Most originate from Russia's western ports and go on to transit the Suez Canal, but some could end up in Turkey. Others may be moved from one vessel to another, with most such transfers now taking place in the Mediterranean, or more recently off Morocco.

Russia's oil flows continue to be complicated by the Greek navy carrying out exercises in an area that's become synonymous with the transfer of the nation's crude. The activities, which ran until June 3, have now been extended to July 15.

Crude Shipments to Asia
Shipments of Russian crude to Asian buyers in million barrels a day

4 weeks ending	China	India	Other	Unknown Asia	Other Unknown	Total
May 5, 2024	1.25	2.01	0.04	0.00	0.00	3.29
May 12, 2024	1.17	1.86	0.04	0.00	0.00	3.06
May 19, 2025	1.24	1.68	0.00	0.08	0.00	3.00
May 26, 2024	1.24	1.59	0.00	0.15	0.00	2.99
June 2, 2024	1.09	1.63	0.00	0.21	0.00	2.93
June 9, 2024	1.24	1.43	0.00	0.28	0.05	3.00

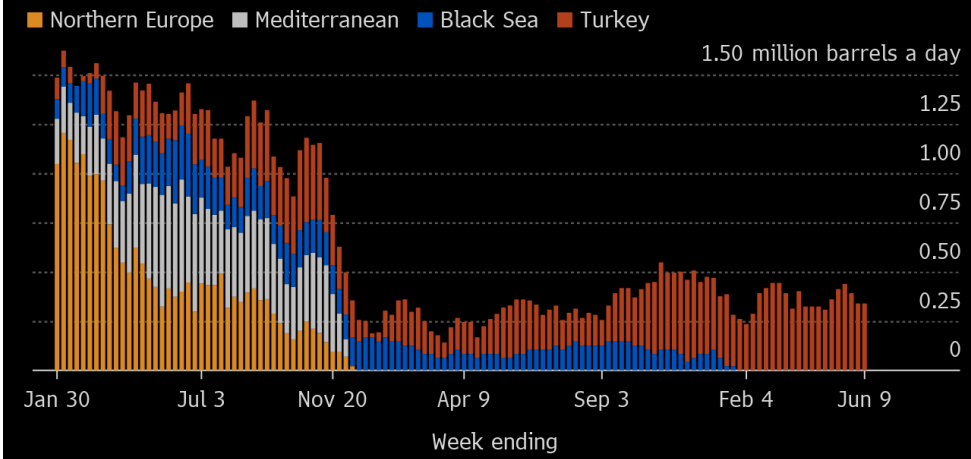
Source: Vessel tracking data compiled by Bloomberg Bloomberg

- **Europe and Turkey**

Russia's seaborne crude exports to European countries have ceased, with flows to Bulgaria halted at the end of last year. Moscow also lost about 500,000 barrels a day of pipeline exports to Poland and Germany at the start of 2023, when those countries stopped purchases.

Turkey is now the only short-haul market for shipments from Russia's western ports, with flows in the 28 days to June 9 stable at about 340,000 barrels a day.

Russia's Crude Shipments to Europe and Turkey
Four-week average crude shipments from Russia (2022-2024)



Source: Vessel tracking data monitored by Bloomberg
Note: Four-week moving average of crude shipments from all Russian ports. Bloomberg

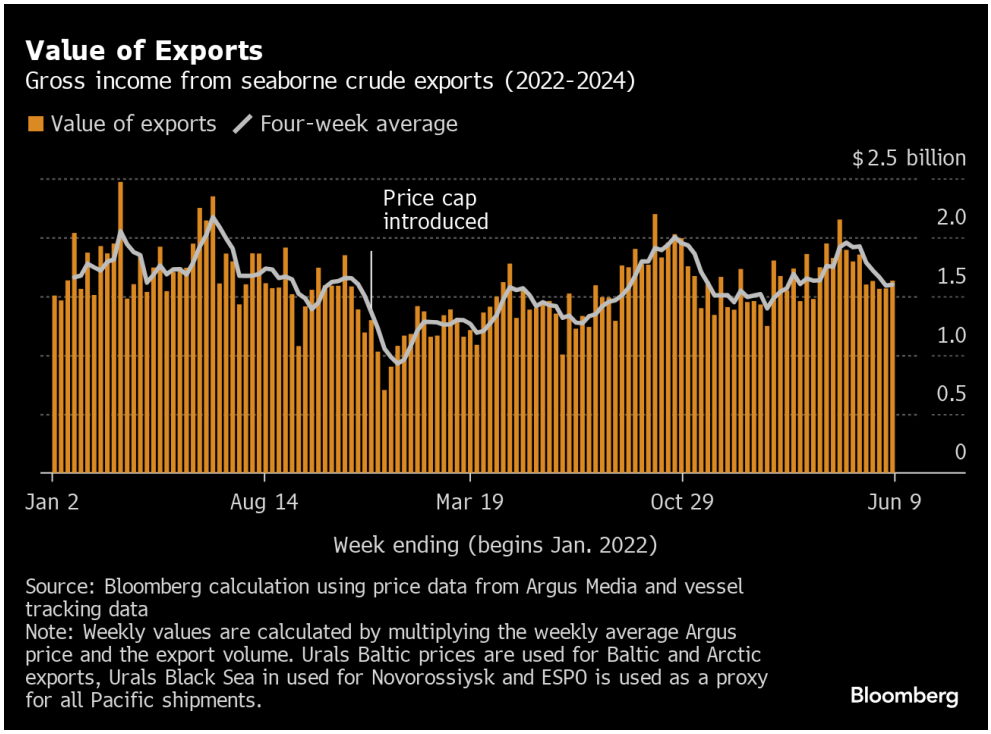
Export Value

The gross value of Russia's crude exports rose to a five-week high of $1.63 billion in the seven days to June 9 from

about $1.56 billion in the period to June 2, despite a sharp drop in prices. Export values at Baltic and Black Sea ports were down week-on-week by almost $4.50 a barrel, while key Pacific grade ESPO dropped by about $3.70 a barrel. Delivered prices in India also fell, down by about $4.60 a barrel, all according to numbers from Argus Media.

In contrast, four-week average income was little changed, inching higher by about $8 million to $1.6 billion a week, just off its 15-week low. The four-week average peak of $2.17 billion a week was reached in the period to June 19, 2022.

During the first four weeks after the Group of Seven nations' price cap on Russian crude exports came into effect in early December 2022, the value of seaborne flows fell to a low of $930 million a week, but soon recovered.



NOTES

This story forms part of a weekly series tracking shipments of crude from Russian export terminals and the gross value of those flows. The next update will be on Tuesday, June 18 .

All figures exclude cargoes identified as Kazakhstan's KEBCO grade. Those are shipments made by KazTransoil JSC that transit Russia for export through Novorossiysk and Ust-Luga and are not subject to European Union sanctions or a price cap. The Kazakh barrels are blended with crude of Russian origin to create a uniform export stream. Since Russia's invasion of Ukraine, Kazakhstan has rebranded its cargoes to distinguish them from those shipped by Russian companies.

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

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

--With assistance from Sherry Su.

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06/10/2024 10:01:03 [BN] Bloomberg News

Russia Makes Deepest Oil Cut in a Year, Still Pumps Above Target

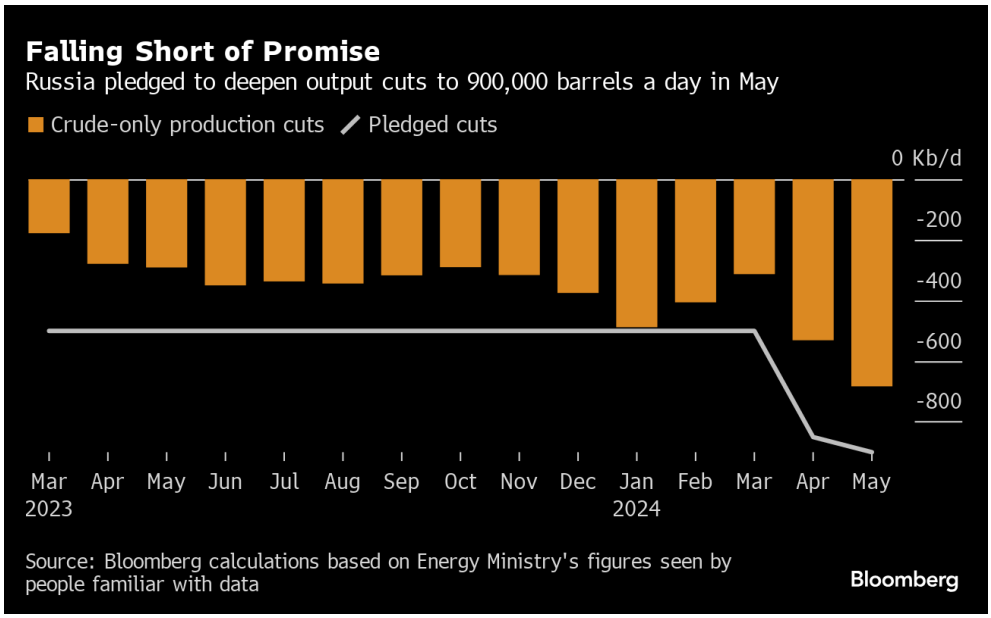
- Output of 9.393 million b/d exceed target of 9.049 million b/d
- Moscow pledged to further deepen production cuts through June

By Bloomberg News

(Bloomberg) -- Russia's crude production last month stayed above its pledge to OPEC+ partners, even as the nation made its deepest output cuts in over a year, according to Bloomberg calculations based on official data.

The nation pumped a daily average of just over 1.281 million tons last month, said people familiar with data from the Energy Ministry, who spoke on condition of anonymity because the figures aren't public. That equates to 9.393 million barrels a day, based on the typical 7.33 barrel-per-ton conversion ratio for Russian crude.

Production was some 344,000 barrels a day above Russia's monthly target level, according to Bloomberg calculations. Moscow pledged to reduce its daily output in May by 0.9 million barrels from the baseline level of 9.949 million barrels. The curbs include two sets of pledges: a 500,000 barrel-a-day cut announced last year, and a 400,000 barrel-a-day reduction promised in March.



Russia's Energy Ministry didn't immediately respond to a request for comment on last month's crude production level. Deputy Prime Minister Alexander Novak said last week that the nation's compliance with its output target was "close to 100%" in May, according to Russian news agencies.

Russia's ministry doesn't disclose the tons-to-barrels conversion ratio it uses for its own assessment of monthly compliance, so internal calculations may differ from those made by Bloomberg.

The size of Russia's daily output cut in May, relative to the baseline, was about 93,000 tons, or some 683,000 barrels, according to the calculations. That's the deepest monthly reduction since it started curbing its crude output unilaterally in response to international energy sanctions in March 2023.

Russia has acknowledged that it overproduced in April "due to technicalities of making significant output cuts," and pledged to compensate for the extra barrels. The nation is due to present a compensation schedule by the end of the month, according to OPEC+.

READ: Russia Pledges to Compensate for April Crude Overproduction

Russia is the only OPEC+ nation splitting its curbs between production and exports of both crude and refined products. This quarter, Moscow promised to make deeper reductions to its output while expanding its exports by a similar amount. For June, the production cuts are set to deepen to a total of 971 thousand barrels a day from the baseline.

The Organization of Petroleum Exporting Countries and its allies, including Russia, have agreed to start rolling back some of their production cuts later this year. From October the group will gradually restore 2.17 million barrels a day of so-called "voluntary" supply curbs over about 12 months.

The plan initially triggered an oil price slump amid concerns whether global demand is strong enough to absorb the extra supply. Russia's Novak, Saudi Energy Minister Prince Abdulaziz bin Salman and United Arab Emirates Energy Minister Suhail Al Mazrouei defended the decision at the St.Petersburg International Economic Forum last week, saying the market will eventually see the gradual release of the barrels was the right thing to do.

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Oil Market Highlights

Crude Oil Price Movements

In May, the OPEC Reference Basket (ORB) declined by $5.53, or 6.2%, m-o-m, to average $83.59/b. Oil futures prices declined, with the ICE Brent front-month contract falling by $6.00, or 6.7%, m-o-m, to average $83.00/b, and the NYMEX WTI front-month contract falling $5.77, or 6.8%, to average $78.62/b. The DME Oman front-month contract fell by $5.63, or 6.3%, m-o-m, to average $83.74/b. The front-month ICE Brent/NYMEX WTI spread narrowed by 23¢ to average $4.38/b. The price structure of ICE Brent and NYMEX WTI weakened and money managers were bearish amid heavy selling. The premium of light sweet to medium sour crudes narrowed further across all major trading hubs on a weaker light sweet market.

World Economy

The world economic growth forecasts for 2024 and 2025 remained unchanged at 2.8% and 2.9%, respectively. For US, the economic growth forecasts for 2024 and 2025 remained unchanged at 2.2% and 1.9%, respectively. The economic growth forecast for the Eurozone remained unchanged at 0.5% for 2024 and 1.2% for 2025. Japan's economic growth forecasts are revised down to 0.3% in 2024 and 0.9% in 2025. China's economic growth forecasts remained at 4.8% in 2024 and 4.6% in 2025. India's economic growth forecasts remained unchanged at 6.6% for 2024 and 6.3% for 2025. Brazil's economic growth forecast is revised up to 1.8% for 2024 but remained unchanged at 1.9% for 2025. Russia's economic growth for 2024 is revised up to 2.9%, while the forecast for 2025 remained unchanged at 1.4%.

World Oil Demand

The global oil demand growth forecast for 2024 remained unchanged from last month's estimates at 2.2 mb/d. There were some minor downward adjustments for 1Q24 due to actual data from the OECD, more specifically Europe and Asia Pacific. This was offset by a better-than-expected performance in the non-OECD in 1Q24. Accordingly, OECD oil demand is now expected to grow by 0.2 mb/d while the non-OECD forecast remains at 2.0 mb/d. In 2025, global oil demand is expected to see robust growth of 1.8 mb/d, y-o-y, unchanged from the previous month's assessment. The OECD is expected to grow by 0.1 mb/d, y-o-y, while demand in the non-OECD is forecast to increase by 1.7 mb/d.

World Oil Supply

The non-Declaration of Cooperation (DoC) liquids supply (i.e., liquids supply from countries not participating in the DoC) is expected to grow by 1.2 mb/d in 2024, unchanged from the previous month's assessment. The main drivers for growth are expected to be the US, Canada, Brazil and Norway. In 2025, non-DoC liquids supply growth is expected at 1.1 mb/d, unchanged from the previous month's assessment. The growth is expected to be mainly driven by the US, Brazil, Canada and Norway. Separately, DoC natural gas liquids (NGLs) and non-conventional liquids are forecast to grow by about 0.1 mb/d to average 8.3 mb/d this year, followed by an increase of 20 tb/d to average 8.3 mb/d in 2025. The DoC-22 crude oil production in May dropped by 123 tb/d, m-o-m, averaging 40.92 mb/d, as reported by available secondary sources.

Product Markets and Refining Operations

In May, refinery margins eased further in all main trading hubs for the third consecutive month, as an ongoing recovery in refinery processing rates led to product stock builds. Gasoline was the main driver of weakness across the barrel in all regions, with ample availability amid heightened production following the conclusion of heavy maintenance and the start of the summer season. Softening economic incentives for East-to-West flows due to weakening export margins and strong gasoline imports from the Middle East weighed on Asian product markets despite strengthening Asian naphtha and fuel oil crack spreads. Global refinery intake increased by 490 tb/d in May to average 80.5 mb/d, compared with 80.0 mb/d the previous month, and was 106 tb/d higher, y-o-y.

Tanker Market

Dirty spot freight rates showed mixed movement in May, with VLCCs and Aframax generally improving while Suezmax experienced a decline m-o-m. VLCC spot freight rates on the Middle East-to-East route rose by 10%, m-o-m, while the West Africa-to-East route rose by 11%. Aframax rates around the Mediterranean rose by 10% in May, while the Indonesia-to-East route was up 6%. In contrast, Suezmax spot freight rates declined, dropping by 8%, m-o-m, on the US Gulf-to-Europe route. Rates for clean tankers were higher across all monitored routes in May, with East of Suez rates up by 10% and West of Suez rates gaining 3%.

Crude and Refined Product Trade

US crude imports rose to a six-month high in May, averaging almost 6.8 mb/d ahead of the summer driving season, according to preliminary data. US crude exports also increased during the month to average 4.4 mb/d, representing a y-o-y gain of over 15%. Meanwhile, US product imports declined by 2% to average 2.1 mb/d, while product exports also fell by about 2% to average 6.5 mb/d, although this still represents an 11% y-o-y gain. The latest complete data for China shows crude imports in April with a seasonal decline of almost 6% to average 10.9 mb/d, while product imports reached a record high of 2.5 mb/d, supported by higher inflows of fuel oil. India's crude imports in April hit a two-year high of 5.2 mb/d, while product imports were the highest in six months at just under 1.3 mb/d. This was ahead of national elections, which were seen boosting transportation demand. In Japan, crude imports partly recovered from the weak performance in 1Q24 to average 2.6 mb/d, while product inflows also recovered. Preliminary estimates indicate OECD Europe crude imports were slightly lower in May, as higher inflows from North America were outpaced by declines from other key regions.

Commercial Stock Movements

Preliminary April 2024 data shows total OECD commercial oil stocks were up by 16.6 mb, m-o-m. At 2,773 mb, they were 154 mb below the 2015–2019 average. Within the components, crude stocks rose by 19.5 mb, while product stocks fell by 2.9 mb, m-o-m, respectively. OECD commercial crude stocks stood at 1,376 mb, which is 96 mb less than the 2015–2019 average. OECD total product stocks in April stood at 1,396 mb. This is 58 mb lower than the 2015–2019 average. In terms of days of forward cover, OECD commercial stocks increased in April by 0.1 days, m-o-m, to stand at 60.1 days. This is 2.2 days lower than the 2015–2019 average.

Balance of Supply and Demand

Demand for DoC crude (i.e., crude from countries participating in the DoC) remains unchanged from the previous month's assessment to stand at about 43.2 mb/d in 2024, which is around 0.9 mb/d higher than the estimated level for 2023. Demand for DoC crude in 2025 remains unchanged from the previous month's assessment to stand at 43.9 mb/d, around 0.7 mb/d higher than the estimate for 2024.

Feature Article

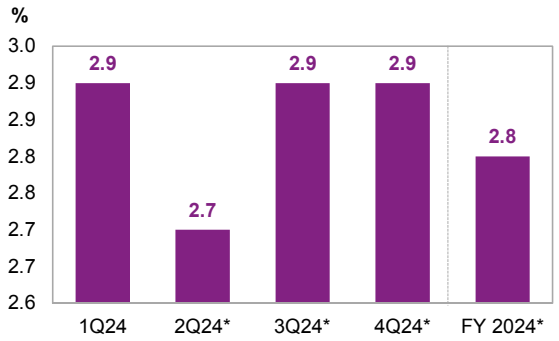
World oil market prospects for the second half of 2024

Despite some economic activities' weakness in few key economies in 1Q24, (i.e. US and Japan), the steady global economic growth has continued in 1H24. Growth in non-OECD economies has held up quite well, and even better-than-expected in the BRIC economies. Should growth in major OECD economies accelerate in 2H24, with non-OECD economies maintaining the momentum of 1H24, then economic growth for the year could potentially improve further. At present, the global economic growth forecast stands at 2.8% for 2024 and 2.9% for 2025, unchanged from last month's assessment (*see* ***Graph 1***).

An expected shift towards more accommodative monetary policies from major central banks in 2H24, notably the US, the Eurozone and the UK, will depend on growth dynamics and inflationary developments in the various economies.

From a sectorial perspective, improvements in the industrial sector have been noticeable in non-OECD economies, while industrial production in OECD economies is forecast to only gradually pick-up in 2H24 from the weak levels experienced since the beginning of the year. Globally, the services sector maintains a stable momentum. It is projected to be the main contributor to the economic growth dynamic in 2H24, particularly supported by travel and tourism, with a consequent positive impact on oil demand.

Graph 1: World GDP growth, y-o-y changes

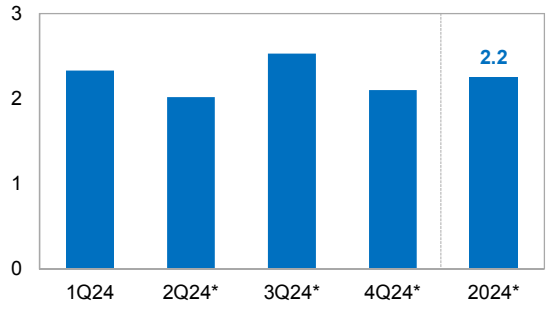


*Note: * 2Q24-3Q24-4Q24 = Forecast.*
Source: OPEC.

With this, global oil demand is forecast to grow by an average of 2.3 mb/d, y-o-y, in 2H24. For the year 2024, it is forecast to expand by 2.2 mb/d (*see* ***Graph 2***).

In the OECD, oil demand is estimated to increase by 0.25 mb/d, y-o-y, in 2H24. This is driven mostly by the US. OECD Europe and OECD Asia Pacific are expected to expand only slightly. In terms of products, jet kerosene and gasoline are anticipated to be the main regional oil demand drivers, on the back of the summer driving season and continued healthy air travel activity. Diesel requirements, however, are anticipated to be subdued by softer economic and manufacturing activity. Moreover, demand for naphtha may be pressured by declining petrochemical margins.

Graph 2: World oil demand, y-o-y changes



*Note: * 2Q24-3Q24-4Q24 = Forecast.*
Source: OPEC.

In the non-OECD, China is expected to be the primary oil demand driver, with other countries in the region providing support. The ongoing air travel recovery, healthy driving levels, as well as improvements in manufacturing sector activities are projected to support jet/kerosene, gasoline, and distillate demand in the region. Non-OECD oil demand is forecast to grow on average by 2.1 mb/d, y-o-y, in 2H24. In terms of the main products, gasoline and jet fuel are set to lead regional oil demand growth, followed by diesel, LPG and naphtha. Overall, non-OECD oil demand is projected to average 2.1 mb/d in 2024.

Following y-o-y estimated growth of 1.8 mb/d in 1H24, non-DoC liquids supply is forecast to expand by 0.7 mb/d, y-o-y, in 2H24. For the entire year, non-DoC liquids supply in 2024 is anticipated to grow by 1.2 mb/d, y-o-y. On a regional basis, OECD liquids supply (excluding Mexico) is set to rise by 0.4 mb/d in 2H24, y-o-y, driven by the US, Canada and Norway. At the same time, liquids supply from the non-OECD region (excluding DoC participating countries) is forecast to rise by 0.2 mb/d in 2H24, y-o-y. Latin America is forecast to be the main driver of production growth in the non-OECD, with an expansion of 0.3 mb/d in 2H24, y-o-y, while supply output in Other Asia is expected to decline.

World Oil Demand

The global oil demand growth forecast for 2024 remains broadly unchanged from last month's estimates at 2.2 mb/d. However, there are some minor adjustments to the 1Q24 and 2Q24 data. Slight downward adjustments were made to OECD Europe, OECD Asia Pacific and Latin America due to lower-than-expected oil demand in 1Q24. Minor downward adjustments were also made to Africa in 2Q24 to account for the anticipated slow momentum in oil requirements in the region. These downward revisions were completely offset by upward revisions to a number of non-OECD countries due to better-than-expected oil demand reported for 1Q24 and improvements expected in 2Q24.

Accordingly, the OECD is projected to expand by more than 0.2 mb/d in 2024, with OECD Americas leading oil demand growth, along with an uptick from OECD Europe. In the non-OECD, oil demand is forecast to expand by nearly 2.0 mb/d, y-o-y, driven by China and supported by Other Asia, the Middle East, India, and Latin America.

Total world oil demand is anticipated to reach 104.5 mb/d in 2024, bolstered by strong demand for air travel and healthy road mobility, including trucking. Support is also expected from industrial, construction and agricultural activities in non-OECD countries. Similarly, petrochemical capacity additions in non-OECD countries, mostly in China and the Middle East, are expected to contribute to oil demand growth. However, this forecast is subject to some uncertainty, which includes global economic developments for the rest of the year.

In 2025, global oil demand is forecast to continue to show robust growth of 1.8 mb/d, y-o-y, unchanged from the previous month's assessment. The OECD is expected to grow by 0.1 mb/d, y-o-y, while demand in the non-OECD is forecast to expand by 1.7 mb/d.

Table 4 - 1: World oil demand in 2024*, mb/d

World oil demand	2023	1Q24	2Q24	3Q24	4Q24	2024	Change 2024/23 Growth	Change 2024/23 %
Americas	25.03	24.57	25.38	25.58	25.44	25.25	0.22	0.88
of which US	*20.36*	*19.98*	*20.67*	*20.67*	*20.85*	*20.54*	*0.18*	*0.90*
Europe	13.40	13.07	13.56	13.69	13.35	13.42	0.02	0.13
Asia Pacific	7.32	7.76	6.97	7.09	7.48	7.32	0.00	0.02
Total OECD	**45.75**	**45.41**	**45.92**	**46.36**	**46.27**	**45.99**	**0.24**	**0.52**
China	16.26	16.52	16.83	17.23	17.33	16.98	0.72	4.44
India	5.34	5.66	5.66	5.40	5.59	5.58	0.23	4.36
Other Asia	9.28	9.73	9.77	9.49	9.51	9.62	0.35	3.74
Latin America	6.69	6.75	6.88	6.97	6.88	6.87	0.18	2.69
Middle East	8.63	8.76	8.56	9.23	9.00	8.89	0.26	2.96
Africa	4.46	4.64	4.35	4.39	4.82	4.55	0.09	2.08
Russia	3.84	3.92	3.80	3.99	4.08	3.95	0.11	2.80
Other Eurasia	1.17	1.30	1.24	1.08	1.28	1.23	0.05	4.51
Other Europe	0.78	0.82	0.78	0.77	0.84	0.80	0.02	2.07
Total Non-OECD	**56.46**	**58.10**	**57.88**	**58.54**	**59.34**	**58.47**	**2.01**	**3.55**
Total World	**102.21**	**103.51**	**103.80**	**104.90**	**105.60**	**104.46**	**2.25**	**2.20**
Previous Estimate	102.21	103.56	103.75	104.90	105.61	104.46	2.25	2.20
Revision	0.00	-0.05	0.05	0.00	-0.01	0.00	0.00	0.00

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

Source: OPEC.

Table 4 - 2: World oil demand in 2025*, mb/d

World oil demand	2024	1Q25	2Q25	3Q25	4Q25	2025	Change 2025/24 Growth	Change 2025/24 %
Americas	25.25	24.64	25.43	25.70	25.52	25.33	0.08	0.31
of which US	*20.54*	*20.02*	*20.70*	*20.73*	*20.89*	*20.59*	*0.04*	*0.21*
Europe	13.42	13.09	13.57	13.71	13.36	13.44	0.02	0.12
Asia Pacific	7.32	7.77	6.98	7.10	7.49	7.33	0.01	0.14
Total OECD	**45.99**	**45.50**	**45.99**	**46.51**	**46.37**	**46.10**	**0.11**	**0.23**
China	16.98	16.95	17.21	17.67	17.72	17.39	0.41	2.42
India	5.58	5.88	5.90	5.61	5.82	5.80	0.23	4.09
Other Asia	9.62	10.02	10.10	9.82	9.81	9.93	0.31	3.23
Latin America	6.87	6.95	7.07	7.19	7.07	7.07	0.20	2.91
Middle East	8.89	9.14	8.90	9.69	9.35	9.27	0.38	4.30
Africa	4.55	4.76	4.45	4.52	4.93	4.66	0.11	2.48
Russia	3.95	3.98	3.85	4.05	4.12	4.00	0.05	1.36
Other Eurasia	1.23	1.34	1.27	1.12	1.31	1.26	0.03	2.57
Other Europe	0.80	0.83	0.79	0.78	0.85	0.81	0.01	1.40
Total Non-OECD	**58.47**	**59.84**	**59.55**	**60.45**	**60.99**	**60.21**	**1.74**	**2.98**
Total World	**104.46**	**105.33**	**105.53**	**106.96**	**107.36**	**106.31**	**1.85**	**1.77**
Previous Estimate	104.46	105.38	105.48	106.96	107.37	106.31	1.85	1.77
Revision	0.00	-0.05	0.05	0.00	-0.01	0.00	0.00	0.00

*Note: * 2025 = Forecast. Totals may not add up due to independent rounding.*
Source: OPEC.

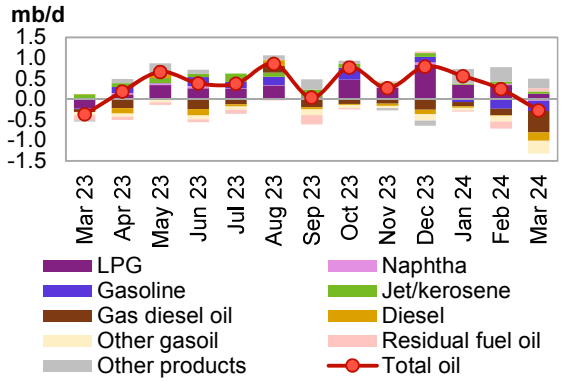
OECD

OECD Americas

Update on the latest developments

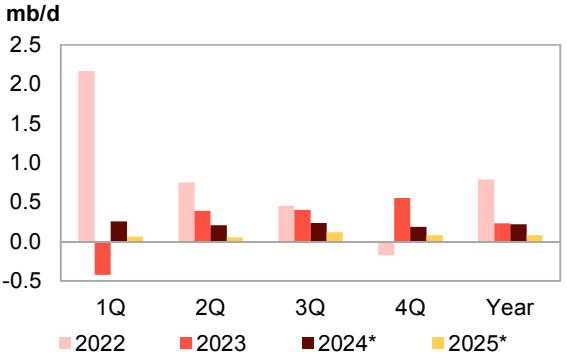
Oil demand in OECD Americas in March contracted by 274 tb/d, y-o-y, down from growth of 244 tb/d, y-o-y, in the previous month. Most of the decline was recorded in the US and can largely be attributed to weak diesel and gasoline requirements.

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



Sources: IEA, JODI, OPEC and national sources.

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



*Note: * 2024-2025 = Forecast.*
Source: OPEC.

US

Oil demand in the US declined by 206 tb/d, y-o-y, in March, down from growth of 190 tb/d, y-o-y, the previous month. The largest contraction was recorded in diesel, which decreased by 429 tb/d, y-o-y, from a decline of 99 tb/d, y-o-y the previous month. This outpaced the growth recorded in LPG and residual fuels. Diesel demand was subdued by reduced requirements for heating oil in the northern parts of the US due to a milder winter. In addition, lacklustre trucking activity during the month weighed on demand for diesel.

According to a report from the American Trucking Association (ATA), the Truck Tonnage Index declined by 2% y-o-y in March after increasing by 4% y-o-y in February. Furthermore, industrial output in the US showed stagnant growth in March, as reported by the Federal Reserve Board.

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

US oil demand By product	Mar 23	Mar 24	Change Growth	Mar 24/Mar 23 %
LPG	3.31	3.60	0.29	8.7
Naphtha	0.14	0.15	0.00	1.4
Gasoline	9.01	8.89	-0.12	-1.3
Jet/kerosene	1.61	1.66	0.05	3.1
Diesel	4.10	3.67	-0.43	-10.5
Fuel oil	0.25	0.31	0.07	26.6
Other products	1.95	1.89	-0.06	-3.2
Total	**20.37**	**20.17**	**-0.21**	**-1.0**

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

Sources: EIA and OPEC.

According to a report from the US Department of Transportation, seasonally-adjusted vehicle miles travelled in March increased by 1.6%, y-o-y. Despite this, gasoline demand declined by 120 tb/d, y-o-y, down further from a 114 tb/d, y-o-y decline in February. The observed disconnect between vehicle miles travelled and gasoline demand may also be due in part to changes in technology and vehicle efficiency. Demand growth in the 'other products' category softened by 63 tb/d, y-o-y, down from a y-o-y contraction of 52 tb/d in February.

On the positive side, the ongoing surge in petrochemical feedstock demand supported LPG demand, which rose by 288 tb/d, y-o-y, and naphtha demand, which remained broadly unchanged, y-o-y. On the back of healthy air travel activity, jet/kerosene increased by 50 tb/d, y-o-y, up from 34 tb/d, y-o-y, in the previous month. According to a report from the International Air Travel Association (IATA), US domestic passenger traffic increased by 2.6% y-o-y in March, and the International Revenue Passenger-Kilometres (RPK) increased by 14.5%, y-o-y. At the same time, demand for residual fuels increased by 66 tb/d, y-o-y, which was an improvement from the annual decline of 101 tb/d, y-o-y, seen in the previous month.

Near-term expectations

The current sound economic dynamic, including strong private household consumption, is expected to continue into 2H24. Furthermore, the summer driving season is now underway, and the number of travellers that flew during this year's Memorial Day weekend was reported to have been the highest in nearly 20 years. Moreover, the number of US travellers expected to drive more than 50 miles from home between Memorial Day and Labor Day weekends is around 76% of US citizens, which is 18% higher than in 2023, according to the American Automobile Association. These factors are expected to bolster transportation fuel demand, including gasoline and jet/kerosene. Furthermore, ongoing firm petrochemical feedstock requirements for ethylene are also expected to boost LPG demand.

However, ongoing lacklustre manufacturing activity amid high interest rates is anticipated to weigh on demand for diesel. Thus, US oil demand is forecast to increase by an average of about 180 tb/d, y-o-y, in 2H24, mostly supported by demand for jet/kerosene, gasoline and LPG.

Overall, US oil demand in 2024 is forecast to increase by 182 tb/d, y-o-y, to average 20.54 mb/d, mostly supported by transportation fuels and light distillates.

In 2025, US transportation activity is forecast to remain solid, supporting transportation fuel demand and driving overall oil demand growth in the country. Additionally, healthy demand for LPG from petrochemical requirements is forecast to continue. However, demand for diesel and naphtha is expected to remain subdued as manufacturing activity has not yet shown a rebound. In 2025, US oil demand is projected to increase by 42 tb/d, y-o-y, to average 20.59 mb/d.

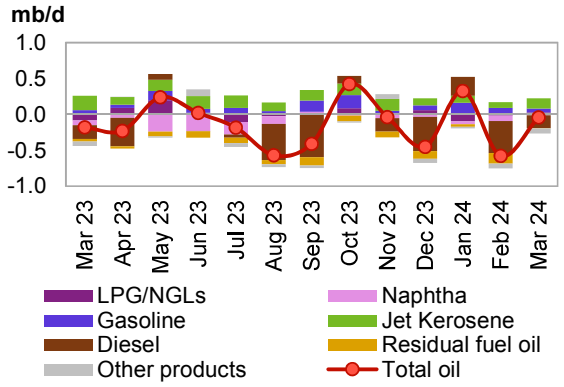
OECD Europe

Update on the latest developments

Oil demand in OECD Europe in March declined by 41 tb/d, y-o-y, but was up from a contraction of 577 tb/d, y-o-y, seen in the previous month. The largest decline was from diesel, which was subdued by weak manufacturing activity.

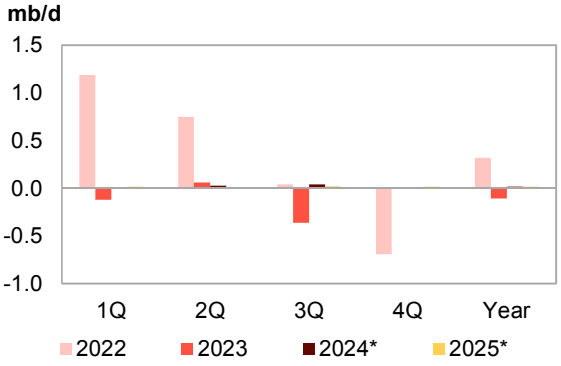
In terms of products, diesel demand declined by 177 tb/d, y-o-y, however, an improvement from the 447 tb/d, y-o-y, decline of the previous month. The continued decline in European diesel demand reflects the ongoing decline in diesel-intensive industrial activity, such as with petrochemicals and steel. Furthermore, the 'other products' category declined by 71 tb/d, and residual fuels saw a marginal decline of 7 tb/d, y-o-y, up from the y-o-y contraction of 146 tb/d seen in the previous month. In terms of petrochemical products, ongoing weak regional petrochemical steam cracker unit demand subdued naphtha requirements, which dropped by 12 tb/d, y-o-y, from a decline of 75 tb/d, y-o-y, seen in January.

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



Sources: IEA, JODI, OPEC and national sources.

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



*Note: * 2024-2025 = Forecast.*
Source: OPEC.

On the positive side, Europe's air traffic recovery rebounded further in March, with jet/kerosene demand surging by 143 tb/d, y-o-y, up from growth of 80 tb/d, y-o-y, in February. A report from IATA's Air Passenger Market Analysis states that Europe's international revenue passenger kilometres (RPKs) grew in March by 11.6%, y-o-y, and 12.2% y-t-d. Additionally, European air travel surpassed pre-pandemic levels in terms of RPKs in March. At the same time, gasoline increased by 52 tb/d, y-o-y, on the back of healthy driving mobility in the region. Demand for LPG increased moderately, by 31 tb/d, y-o-y, up from an annual decline of 15 tb/d in February.

Near-term expectations

Better-than-expected economic growth in 1Q24 in the Eurozone suggests that economic expansion could accelerate this year, albeit at a gradual and slow pace. In addition, some additional upside potential for economic growth could come from tourism, and more generally, the services sector, toward the summer season, as well as from a gradual improvement in industrial production, particularly in Germany.

Transportation and air travel activity in the region is expected to continue increasing this summer, with light products gaining ground as the summer travel season approaches. Moreover, Europe will host two major sporting events – the Olympic Games in France and the UEFA European Football Championship in Germany – which are both expected to boost travel and tourism demand in the region. These events are likely to contribute positively to transportation fuel consumption, to drive regional oil demand. Furthermore, demand for diesel could pick up in the near term with seasonal consumption from agricultural and construction companies. Oil demand growth in the region is expected to average 23 tb/d, y-o-y, in 2H24. Petrochemical activity is also expected to show some improvement and support naphtha demand, albeit at low levels. LPG and residual fuels are expected to record a slight uptick. Overall, the region is set to see marginal growth of 18 tb/d, y-o-y, in 2024 for an average of 13.42 mb/d, mostly supported by transportation fuels.

Potential improvements towards the end of 2024 are expected to carry over into 2025, with anticipated positive GDP growth in the region. OECD Europe oil demand growth is forecast at 17 tb/d, y-o-y, driven by air travel and driving activity. An increase in vehicle fuel efficiency and penetration of electric vehicles amid ongoing environmental regulations may have an impact on gasoline and diesel demand. Similarly, the European petrochemical feedstock market is poised for major changes in fundamentals, mostly due to environmental

regulations and high production costs, which could weigh on demand going forward. Overall, the region is projected to consume an average of 13.44 mb/d in 2025.

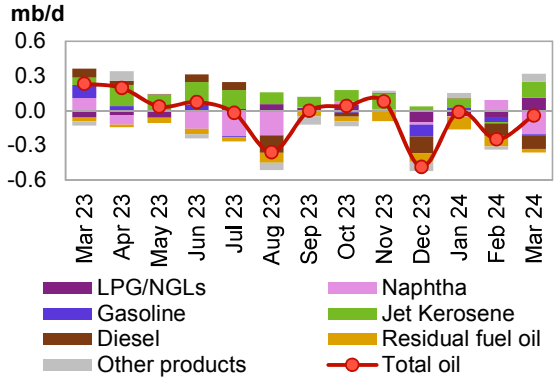
OECD Asia Pacific

Update on the latest developments

Oil demand in OECD Asia Pacific in March contracted by 42 tb/d, y-o-y, but was up from a contraction of 246 tb/d, y-o-y, seen in February. The decline reflects weak petrochemical and industrial sector requirements for naphtha and diesel from Japan and South Korea.

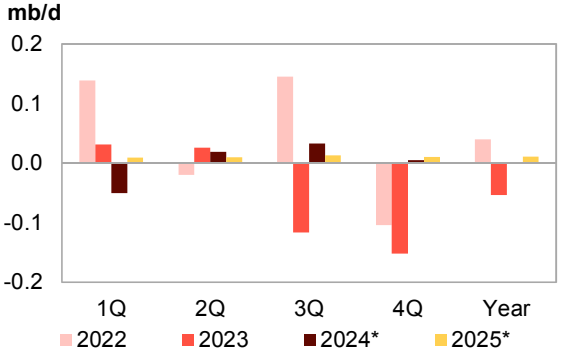
In terms of products, naphtha recorded the region's largest decline of 202 tb/d, y-o-y, down from a growth of 91 tb/d, y-o-y, the previous month. Diesel contracted by 113 tb/d, y-o-y, slightly below the decline of 110 tb/d, y-o-y, in the previous month. Diesel was affected by prolonged weak manufacturing activity in Japan and South Korea, which is currently witnessing some gradual improvements. In Japan, industrial production (IP) in March declined by 3.0%, y-o-y, but was up from a contraction of 6.7%, y-o-y in February. In South Korea, seasonally adjusted IP increased by 6.1%, y-o-y, in April, from 2.7%, y-o-y, in March. Residual fuel and gasoline declined, y-o-y, by 30 tb/d and 16 tb/d, respectively, a significant improvement compared to the previous month.

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



Sources: IEA, JODI, METI and OPEC.

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



*Note: * 2024-2025 = Forecast.*
Source: OPEC.

On the positive side, jet/kerosene surged by 139 tb/d, y-o-y, up from the annual decline of 10 tb/d seen in the previous month. Demand in the region was supported by an ongoing rebound in air travel across the region. A report from IATA's Air Passenger Market Analysis states that air travel in the Asia Pacific region continues to rise at a rapid pace, with international revenue passenger kilometres (RPKs) surging by 38.5%, y-o-y, in March. Demand for LPG expanded by 111 tb/d, y-o-y, up from a 63 tb/d, y-o-y, decline in February. The increase was largely supported by requirements from South Korea and Australia. The 'other products' category increased by 69 tb/d, y-o-y, up from a 27 tb/d, y-o-y, decline in the previous month.

Near-term expectations

Following a slight rebound in Japan's economic activity in 1Q24, consumer confidence remained sound amid rising tourism activity. Increasing visitor numbers and higher per capita spending driven by the yen's weakness are providing support to Japan's economy. Moreover, the services sector PMI, constituting around two-thirds of the Japanese economy, indicated ongoing sound developments in the services sector. Similarly, South Korea's manufacturing PMI showed a gradual improvement from previously sluggish numbers. A steady recovery in air traffic, along with improvements in driving activity and petrochemical industry operations, is anticipated to support the region's oil demand growth, which is projected to increase in 2H24 by an average of nearly 20 tb/d, y-o-y. Overall, oil demand in OECD Asia Pacific is expected to remain broadly unchanged, y-o-y, in 2024, with the region forecast to consume an average of 7.32 mb/d.

Positive economic momentum, particularly in 2H24, is forecast to carry over into 2025. In addition, transportation and petrochemical sector requirements are expected to continue supporting OECD Asia Pacific oil demand, which is forecast to grow marginally, by 11 tb/d, y-o-y, for an average of 7.33 mb/d.

Non-OECD

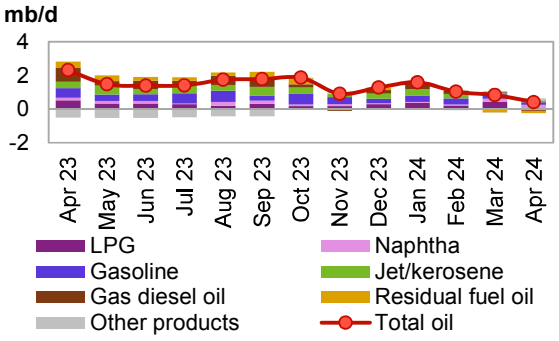
China

Update on the latest developments

China's oil demand in April expanded by 418 tb/d, y-o-y, down from 834 tb/d, y-o-y, growth seen the previous month. The relative m-o-m decline in April compared to the previous month was due to a strong baseline comparison amid an easing of travel activities after the Lunar Year boost in transportation activity. Demand was driven by strong petrochemical feedstock requirements amid healthy transportation sector demand.

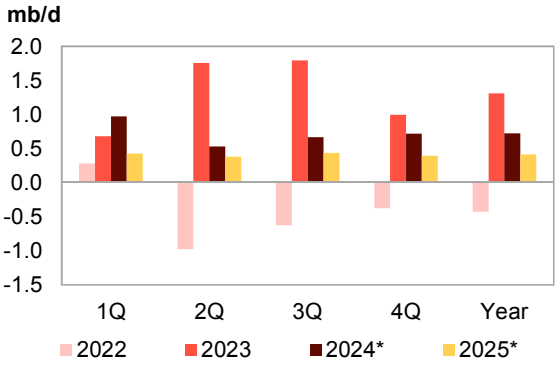
The surging petrochemical feedstock requirements resulted in naphtha expanding by 200 tb/d, y-o-y, up from healthy growth of 182 tb/d, y-o-y, seen in March. LPG saw an uptick of 46 tb/d, down from growth of 439 tb/d, y-o-y, seen in the previous month. Growth in LPG was also affected by a strong baseline. Gasoline expanded by 165 tb/d, y-o-y, down from growth of 256 tb/d, y-o-y, in March. The relative decline in gasoline growth was due to a slight m-o-m slowdown in driving mobility. Data from China's National Bureau of Statistics/Haver Analytics indicates that passenger traffic (per 100 million persons-kilometres) rose by 17%, y-o-y, in April. This compares to a jump of 20.8%, y-o-y, in March. In addition, gasoline growth was subdued by intense flooding in China's Guangdong province, which led to a reduction in road traffic in that region. Jet/kerosene posted growth of 106 tb/d, y-o-y, slightly down from growth of 117 tb/d, y-o-y the previous month, on the back of ongoing air travel recovery. Healthy jet/kerosene demand in April was consistent with a report from China's Civil Aviation Administration, which shows that domestic and international air travel turnover increased by 4.8% and 75.1%, y-o-y, in April, respectively. The 'other products' category, which includes bitumen, surged by 125 tb/d, y-o-y, from a slight decline of 9 tb/d, y-o-y, in March.

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



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

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



*Note: * 2024-2025 = Forecast.*
Source: OPEC.

Residual fuels declined by 124 tb/d, y-o-y, up from a drop of 194 tb/d y-o-y the previous month. Diesel declined by 101 tb/d, y-o-y, down from a growth of 43 tb/d, y-o-y, the previous month. Diesel was partly affected by a strong baseline comparison and intense flooding in China's Guangdong province in April, which impacted economic activity in the province.

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

China's oil demand			Change	Apr 24/Apr 23
By product	Apr 23	Apr 24	Growth	%
LPG	2.45	2.50	0.05	1.9
Naphtha	1.53	1.73	0.20	13.1
Gasoline	3.90	4.07	0.17	4.2
Jet/kerosene	0.93	1.03	0.11	11.4
Diesel	3.67	3.57	-0.10	-2.7
Fuel oil	0.99	0.87	-0.12	-12.5
Other products	2.66	2.78	0.13	4.7
Total	**16.13**	**16.55**	**0.42**	**2.6**

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

Near-term expectations

Looking ahead, on the back of robust economic activity, the travel sector is expected to continue to support oil demand in China in 2H24. Jet/kerosene and gasoline are expected to lead oil demand growth amid ongoing air travel recovery and healthy road mobility. Moreover, the new upcoming capacity additions are expected to support more demand for petrochemical feedstocks later this year. In 2H24, China's oil product demand is expected to expand by almost 0.7 mb/d, y-o-y.

The industrial sector and, in particular, manufacturing activity are expected to gain support from the government's policy to support manufacturing and high-tech industries. The just-concluded Chinese People's Political Consultative Conference and National People's Congress meetings reiterated their drive for support of economic recovery through boosting consumption by relaxing foreign investment restrictions and enhancing the development of strategic emerging industries.

China's manufacturing and services indices have been above expansionary territory for more than six months, suggesting a sign of strength for oil demand in the near term. Moreover, robust global demand for finished goods for export is expected at the end of the year, feeding into demand for petrochemical products. Overall, oil demand is forecast to grow by more than 0.7 mb/d, y-o-y, to average 16.98 mb/d. However, ongoing headwinds in the real estate sector are anticipated to continue to weigh on diesel demand.

In 2025, steady economic growth and healthy travel activity are expected to continue to support oil demand, with China remaining the global leader in oil demand growth, increasing by 0.4 mb/d, y-o-y, to average 17.4 mb/d. China is also projected to lead global petrochemical feedstock demand growth, with jet fuel demand set to rise due to an ongoing increase in air transportation requirements.

India

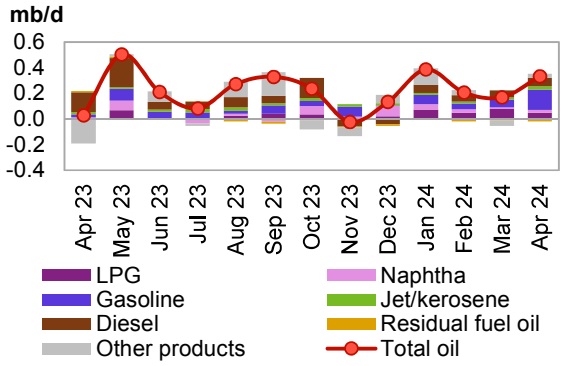
Update on the latest developments

In April, India's oil demand surged by 333 tb/d, y-o-y, up from y-o-y growth of 169 tb/d in the previous month. The annual demand increase was largely supported by gasoline and diesel.

The largest oil demand increase in April was recorded for gasoline, which grew by 156 tb/d, y-o-y, up from an increase of 59 tb/d, y-o-y, seen in March. Gasoline demand was supported by healthy mobility during the general election campaigns. A report from the Ministry of Road Transport & Highways/Haver Analytics shows that gasoline motor vehicle registrations increased by 29.17% y-o-y in April. This is consistent with a report from the Federation of Automobile Dealers Associations (FADA) Society of India, which indicated that April vehicle sales in India rose by 27%, y-o-y, and 3.7%, m-o-m.

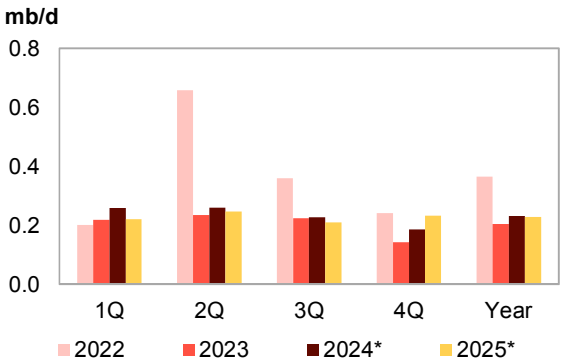
With India's manufacturing industry seeing solid growth in April, diesel requirements saw an uptick of 64 tb/d, y-o-y, up from a growth of 56 tb/d, y-o-y, seen in the previous month. Diesel was supported by agricultural sector requirements amid an increase in industrial and mining activities in various parts of India.

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



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

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



*Note: * 2024-2025 = Forecast.*
Source: OPEC.

In terms of petrochemical feedstocks, LPG grew by 46 tb/d, y-o-y, from an increase of 77 tb/d, seen in March. LPG consumption during the year has been largely driven by household demand, which makes up 88.4% of total LPG requirements. Naphtha saw an uptick of 25 tb/d, y-o-y, up from growth of 12 tb/d, y-o-y. Jet/kerosene increased by 27 tb/d, y-o-y, up from an increase of 18 tb/d, y-o-y, in the previous month. According to a report from the Indian Directorate General of Civil Aviation, Indian domestic airlines recorded a 2.4% y-o-y increase in April 2024. The 'other products' category, which includes bitumen, increased by 34 tb/d, y-o-y, up from an annual decline of 44 tb/d in the previous month. During April, total bitumen consumption registered at 9.9% y-o-y growth. Major factors contributing to bitumen consumption during the month included road construction activity, which was in full swing during the month as 98% of cumulative bitumen sales were attributed to road construction.

Residual fuels declined by 20 tb/d, y-o-y, down from an 11 tb/d, y-o-y decline in the previous month. Residual fuel requirements were subdued by the consumption shift to natural gas due to the increased and wider availability of gas coupled with the banning of fuel oil used in industries across various parts of the country.

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

India's oil demand			Change	Apr 24/Apr 23
By product	Apr 23	Apr 24	Growth	%
LPG	0.84	0.88	0.05	5.5
Naphtha	0.33	0.36	0.03	7.7
Gasoline	0.82	0.97	0.16	19.2
Jet/kerosene	0.18	0.21	0.03	15.0
Diesel	1.96	2.02	0.06	3.3
Fuel oil	0.13	0.11	-0.02	-15.2
Other products	0.93	0.97	0.03	3.6
Total	**5.18**	**5.51**	**0.33**	**6.4**

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

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

Near-term expectations

In the near term, the current strong economic growth amid a positive outlook for manufacturing activity and investments is expected to bolster oil demand in 2H24 to grow by 0.2 mb/d, y-o-y, on average. Moreover, the government is focused on the manufacturing sector to further support the economy amid an expected surge in construction. Oil demand is also likely to receive a boost from a cut to retail gasoline and diesel prices by around 2 rupees/litre ($3.80/b) from 15 March to boost consumer spending and reduce vehicle operating costs. Furthermore, India is expected to see a 'normal' monsoon this year, as per private weather forecaster Skymet, which will help support a good agricultural harvest.

Overall, these factors are expected to bolster India's oil demand. Additionally, the country's annual traditional festivities are set to support transportation activity and boost gasoline demand. Finally, the ongoing air travel recovery is anticipated to support jet/kerosene demand. In 2024, India is expected to see healthy oil demand growth of 233 tb/d, y-o-y, for an average of 5.58 mb/d.

The healthy economic momentum is expected to continue into 2025. Furthermore, manufacturing and business activities in India are expected to be steady, supporting an oil demand increase of 228 tb/d, y-o-y. Diesel is expected to continue being the main driver of demand, followed by the 'other products' category, in particular bitumen. Additionally, robust growth in transport fuels and growth in LPG and naphtha demand are expected to remain healthy and support oil demand during the year.

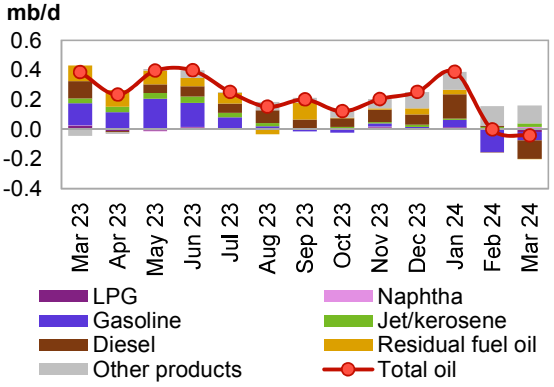
Latin America

Update on the latest developments

Oil demand in Latin America in March softened by 42 tb/d, y-o-y, amid a strong baseline effect and relative declines from Argentina and Brazil, which more than offset the 34 tb/d, y-o-y growth recorded in Venezuela. Most of the regional oil demand decline was from diesel and gasoline.

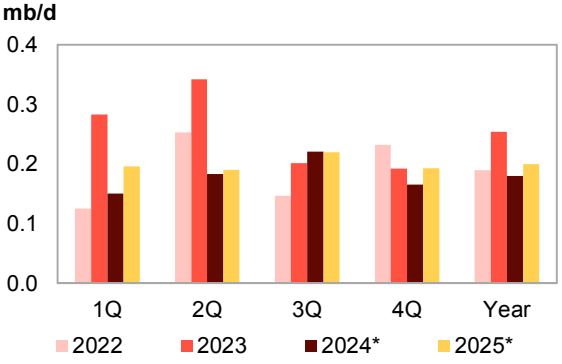
In terms of demand by product, diesel recorded the largest contraction, by 125 tb/d, y-o-y, down from a minor 9 tb/d, y-o-y increase in the previous month. Gasoline declined by 56 tb/d, y-o-y, but was up from the 150 tb/d, y-o-y decline in the previous month. Residual fuels saw a marginal decline of 4 tb/d, y-o-y. In terms of petrochemical feedstocks, LPG softened by 17 tb/d, y-o-y.

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



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

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



*Note: * 2024-2025 = Forecast.*
Source: OPEC.

The largest increase was recorded in the 'other products' category with 121 tb/d, y-o-y growth. On the back of ongoing air travel recovery, jet/kerosene saw growth of 23 tb/d, y-o-y, up from growth of 17 tb/d, y-o-y, in the previous month. A report from IATA's Air Passenger Market Analysis states that Latin American carriers saw a 19.7% increase in traffic during March. Compared to the same period last year, momentum persisted as tourism to Latin America gained strength. Within the region, Brazil's RPK grew by 1.6% y-o-y and by 0.6% m-o-m in seasonally adjusted terms. At the same time, demand for naphtha increased by 16 tb/d, y-o-y, up from a marginal 2 tb/d, y-o-y decline in the previous month.

Near-term expectations

Looking ahead in 2H24, ongoing strong consumer spending, driven by rising real wages, lower inflation and declining interest rates, is expected to be the main driver of growth in Brazil, the largest oil-consuming country in the region. In addition, forward-looking indicators from Brazil indicate a positive growth trajectory in services and manufacturing activities. The services PMI in Australia has also been on an expansion trajectory since February. Additionally, the air travel recovery is set to continue and boost oil demand in the region, which is expected to show growth of 193 tb/d, y-o-y, in 2H24. In 2024, oil demand is expected to expand by 180 tb/d, y-o-y, to average 6.87 mb/d. Specifically, transportation fuels – jet/kerosene gasoline and diesel – are projected to drive overall oil demand growth.

In 2025, healthy economic activity amid an expected acceleration in Brazil's economy, which will likely stem from fiscal consolidation and the early benefits of tax reforms, is expected to support oil demand in the region. Both transportation and manufacturing activities are expected to support average oil demand growth of 200 tb/d, y-o-y, for an average of 7.07 mb/d. Transportation fuels, including gasoline, jet/ kerosene and diesel, are anticipated to drive demand growth.

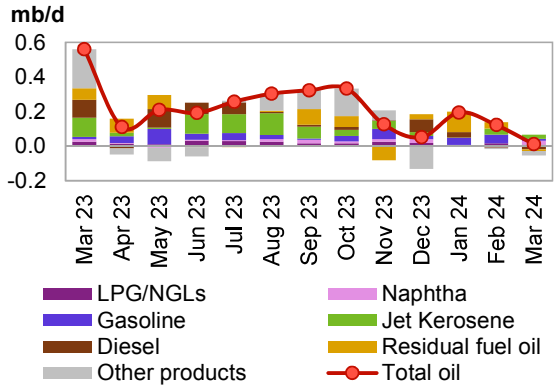
Middle East

Update on the latest developments

Oil demand in the Middle East during March registered an uptick of 12 tb/d, y-o-y, below the 123 tb/d, y-o-y, growth recorded in the previous month. The overall weak m-o-m demand growth was due to a strong baseline effect amid declines in diesel, residual fuel oil and the 'other products' category.

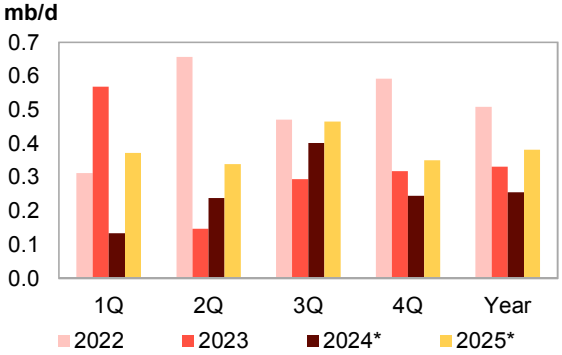
Jet/kerosene was the main driver of oil demand growth at 23 tb/d, y-o-y. The product was supported by steady air travel recovery in the region, as a report from IATA showed that the International RPKs in the Middle East registered growth of 10.8% y-o-y in March. At the same time, gasoline increased slightly by 12 tb/d, y-o-y, down from an increase of 49 tb/d, y-o-y in February. In terms of petrochemical feedstock, LPG saw an uptick of 9 tb/d, y-o-y, below 17 tb/d, y-o-y growth seen in the previous month. Naphtha demand increased by 22 tb/d, y-o-y, up from a decline of 5 tb/d, y-o-y, in the previous month.

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



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

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



*Note: * 2024-2025 = Forecast.*
Source: OPEC.

Diesel demand in the Middle East region contracted by 20 tb/d, y-o-y, from a decline of 4 tb/d, y-o-y seen the previous month. While the 'other products' category declined by 27 tb/d, y-o-y, residual fuel softened by 8 tb/d, y-o-y.

Near-term expectations

In the near term, the largest economies of the region continue to demonstrate robust growth in their non-oil sectors, driven by strong government support and solid consumer spending. Economic activity in the region is expected to remain robust to support oil demand. In addition, the ongoing Hajj is expected to bolster transportation activity and requirements for air conditioning in Saudi Arabia. Moreover, during the peak months of summer in the Middle East, the high temperatures across the region are expected to boost demand for air conditioning. The current focus on petrochemical sector development is set to bolster petrochemical feedstock requirements in the region. Accordingly, these factors are projected to support overall oil demand growth, which is forecast to expand by an average of 323 tb/d, y-o-y, in 2H24. Overall, Middle East oil demand in 2024 is expected to grow by 255 tb/d, y-o-y, for an average of 8.89 mb/d.

In 2025, healthy economic dynamics amid spending on infrastructure and mega projects in the region are projected to continue. In addition, mobility and petrochemical sector requirements are expected to remain steady. These factors should support demand for transportation fuels and other distillates. Accordingly, regional oil demand in 2025 is expected to expand by 382 tb/d, y-o-y, to reach an average of 9.27 mb/d.

World Oil Supply

Non-DoC liquids supply (i.e. liquids supply from countries not participating in the Declaration of Cooperation) is expected to expand by 1.2 mb/d in 2024 to average 53.0 mb/d, unchanged from the previous month's assessment.

Following disruptions at the beginning of the year, US crude and condensate production in March returned close to its all-time high and natural gas liquids (NGLs) production set a new record. Accordingly, US liquids supply growth for 2024 is estimated at 0.4 mb/d. In addition to the US, the main drivers for expected non-DoC growth in 2024 are Canada, Brazil and Norway.

In 2025, non-DoC liquids supply growth is expected at 1.1 mb/d to average 54.1 mb/d, broadly unchanged from the previous month's assessment. Growth is mainly driven by the US, Brazil, Canada and Norway, while the main decline is expected in Angola.

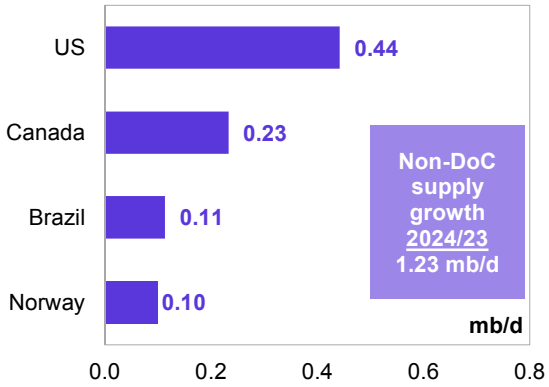
DoC NGLs and non-conventional liquids are forecast to grow by around 0.1 mb/d to average 8.3 mb/d in 2024, followed by an increase of around 20 tb/d to average 8.3 mb/d in 2025. OPEC NGLs and non-conventional liquids production is expected to increase by around 60 tb/d to average 5.5 mb/d in 2024, and additional growth of 110 tb/d is forecast in 2025 to average 5.6 mb/d.

DoC crude oil production in May decreased by 123 tb/d, m-o-m, averaging 40.92 mb/d, as reported by available secondary sources.

Key drivers of growth and decline

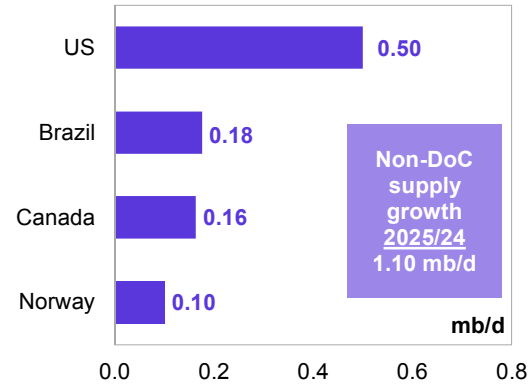
Non-DoC liquids supply (i.e. liquids supply from countries not participating in the Declaration of Cooperation) is expected to grow by 1.2 mb/d in 2024, broadly unchanged from the previous month's assessment. The main drivers for non-DoC liquids supply growth in 2024 are expected to be the US, Canada, Brazil and Norway.

Graph 5 - 1: Annual liquids production changes, y-o-y, for selected countries in 2024*



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

Graph 5 - 2: Annual liquids production changes, y-o-y, for selected countries in 2025*



*Note: * 2025 = Forecast. Source: OPEC.*

In 2025, non-DoC liquids supply growth is expected at 1.1 mb/d, largely unchanged from the previous month's assessment. Growth is set to be mainly driven by the US, Brazil, Canada and Norway.

Non-DoC liquids production in 2024 and 2025**

Table 5 - 1: Non-DoC liquids production in 2024*, mb/d

Non-DoC liquids production	2023	1Q24	2Q24	3Q24	4Q24	2024	Change 2024/23 Growth	Change 2024/23 %
Americas	26.60	26.92	27.20	27.38	27.58	27.27	0.67	2.54
of which US	*20.90*	*21.02*	*21.40*	*21.43*	*21.51*	*21.34*	*0.44*	*2.12*
Europe	3.65	3.67	3.74	3.73	3.88	3.76	0.10	2.80
Asia Pacific	0.44	0.45	0.43	0.43	0.43	0.44	-0.01	-1.78
Total OECD	**30.69**	**31.04**	**31.37**	**31.54**	**31.89**	**31.46**	**0.77**	**2.51**
China	4.52	4.62	4.59	4.46	4.46	4.53	0.02	0.35
India	0.77	0.78	0.79	0.79	0.78	0.78	0.01	1.32
Other Asia	1.61	1.62	1.58	1.58	1.58	1.59	-0.02	-1.37
Latin America	6.96	7.28	7.20	7.42	7.47	7.34	0.38	5.50
Middle East	2.02	2.00	2.02	2.01	2.02	2.01	-0.01	-0.57
Africa	2.22	2.26	2.26	2.24	2.27	2.26	0.04	1.59
Other Eurasia	0.36	0.36	0.36	0.36	0.36	0.36	0.00	0.28
Other Europe	0.10	0.10	0.10	0.10	0.10	0.10	0.00	-1.15
Total Non-OECD	**18.57**	**19.02**	**18.91**	**18.96**	**19.03**	**18.98**	**0.41**	**2.21**
Total Non-DoC production	49.26	50.06	50.27	50.50	50.93	50.44	1.18	2.39
Processing gains	2.47	2.52	2.52	2.52	2.52	2.52	0.05	2.03
Total Non-DoC liquids production	**51.73**	**52.58**	**52.79**	**53.02**	**53.45**	**52.96**	**1.23**	**2.38**
Previous estimate	51.73	52.51	52.69	52.94	53.70	52.96	1.23	2.38
Revision	0.01	0.07	0.11	0.08	-0.25	0.00	0.00	0.00

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

Source: OPEC.

Table 5 - 2: Non-DoC liquids production in 2025*, mb/d

Non-DoC liquids production	2024	1Q25	2Q25	3Q25	4Q25	2025	Change 2025/24 Growth	Change 2025/24 %
Americas	27.27	27.87	27.66	27.90	28.29	27.93	0.66	2.43
of which US	*21.34*	*21.74*	*21.77*	*21.82*	*22.03*	*21.84*	*0.50*	*2.34*
Europe	3.76	3.93	3.81	3.79	3.90	3.86	0.10	2.67
Asia Pacific	0.44	0.43	0.42	0.43	0.43	0.43	-0.01	-1.79
Total OECD	**31.46**	**32.23**	**31.89**	**32.12**	**32.62**	**32.22**	**0.76**	**2.40**
China	4.53	4.57	4.55	4.51	4.52	4.54	0.01	0.13
India	0.78	0.78	0.79	0.80	0.80	0.79	0.01	1.00
Other Asia	1.59	1.58	1.56	1.55	1.54	1.56	-0.03	-1.83
Latin America	7.34	7.50	7.54	7.62	7.75	7.60	0.26	3.58
Middle East	2.01	2.01	2.04	2.04	2.03	2.03	0.02	1.01
Africa	2.26	2.28	2.28	2.28	2.27	2.28	0.02	0.76
Other Eurasia	0.36	0.36	0.36	0.36	0.36	0.36	0.00	0.07
Other Europe	0.10	0.10	0.10	0.10	0.10	0.10	0.00	1.97
Total Non-OECD	**18.98**	**19.20**	**19.23**	**19.26**	**19.38**	**19.27**	**0.29**	**1.51**
Total Non-DoC production	50.44	51.43	51.12	51.39	52.00	51.49	1.04	2.07
Processing gains	2.52	2.58	2.58	2.58	2.58	2.58	0.06	2.38
Total Non-DoC liquids production	**52.96**	**54.01**	**53.70**	**53.97**	**54.58**	**54.07**	**1.10**	**2.08**
Previous estimate	52.96	54.01	53.70	53.97	54.58	54.06	1.10	2.08
Revision	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

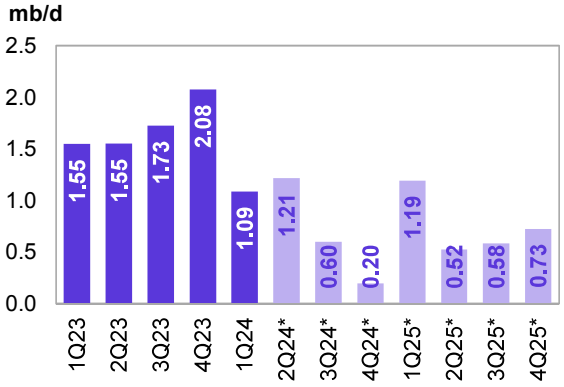
*Note: * 2025 = Forecast. Totals may not add up due to independent rounding.*

Source: OPEC.

OECD

For 2024, OECD liquids production (excluding DoC participating country Mexico) is anticipated to expand by 0.8 mb/d to average 31.5 mb/d. Growth is set to be led by OECD Americas, with an expected increase of 0.7 mb/d to average 27.3 mb/d. This is revised down by about 10 tb/d compared with the previous month's assessment. Yearly liquids production in OECD Europe is expected to rise by 0.1 mb/d to average 3.8 mb/d, which is revised down by around 10 tb/d compared with the previous assessment. OECD Asia Pacific is expected to decline by 8 tb/d, y-o-y, to average 0.4 mb/d.

Graph 5 - 3: OECD quarterly liquids supply, y-o-y changes



*Note: * 2Q24-4Q25 = Forecast. Source: OPEC.*

OECD liquids production is forecast to grow by 0.8 mb/d to average 32.2 mb/d in 2025. OECD Americas is expected to be the main growth driver, with an expected increase of 0.7 mb/d for an average of 27.9 mb/d. Yearly liquids production in OECD Europe is expected to grow by 0.1 mb/d to average 3.9 mb/d, while OECD Asia Pacific is expected to decline by a minor 8 tb/d, y-o-y, to average 0.4 mb/d.

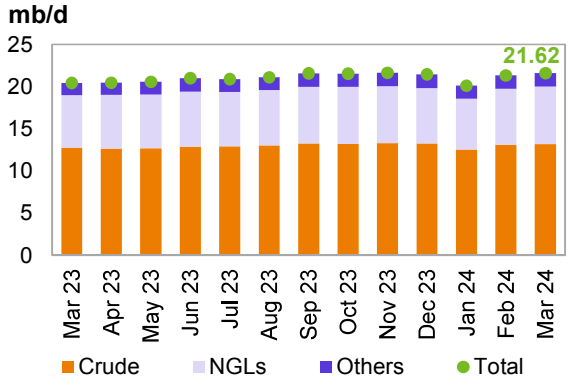
OECD Americas

US

US liquids production in March rose by 0.3 mb/d, m-o-m, to average 21.6 mb/d. This was 1.2 mb/d higher than in March 2023.

Crude oil and condensate production rose by 77 tb/d, m-o-m, to average 13.2 mb/d in March, up by 0.4 mb/d, y-o-y.

Graph 5 - 4: US monthly liquids output by key component



Sources: EIA and OPEC.

In terms of crude and condensate production breakdown by region (PADDs), production increased on the US Gulf Coast (USGC) by 99 tb/d to average 9.6 mb/d. Production on the East and West Coasts remained broadly unchanged. While output in the Midwest fell by 31 tb/d, the Rocky Mountain region saw output rise by 10 tb/d, m-o-m.

A jump in production in the main producing regions can primarily be attributed to higher output in Texas, New Mexico and the offshore Gulf of Mexico (GoM). Production in North Dakota fell m-o-m, due to cold late-winter weather in March.

NGLs production rose by 0.2 mb/d, m-o-m, to average 6.8 mb/d in March. This was 0.6 mb/d higher, y-o-y. According to the US Department of Energy (DoE), the production of non-conventional liquids (mainly ethanol) rose by 19 tb/d, m-o-m, to average 1.6 mb/d. Preliminary estimates show non-conventional liquids averaging about 1.5 mb/d in April, lower by 0.1 mb/d, m-o-m.

GoM production increased by 30 tb/d, m-o-m, to average 1.8 mb/d in March. Output is still lower than expectations due to several operational issues on a number of platforms, but GoM production remains supported by new project ramp-ups. In the onshore Lower 48, crude and condensate production rose by 46 tb/d, m-o-m, to an average of 10.9 mb/d in March.

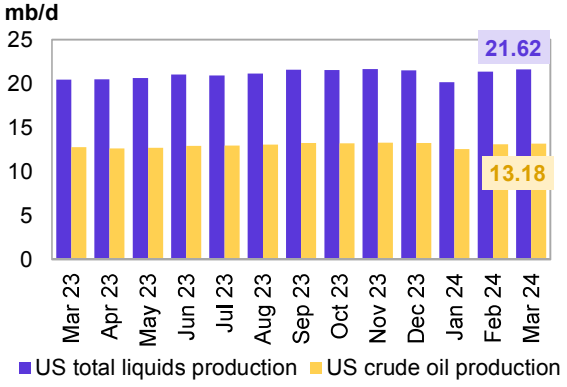
Table 5 - 3: US crude oil production by selected state and region, tb/d

State	Mar 23	Feb 24	Mar 24	Change m-o-m	Change y-o-y
Texas	5,454	5,548	5,584	*36*	*130*
New Mexico	1,840	1,982	2,014	*32*	*174*
Gulf of Mexico (GOM)	1,874	1,793	1,823	*30*	*-51*
North Dakota	1,094	1,248	1,214	*-34*	*120*
Colorado	433	468	473	*5*	*40*
Alaska	435	432	433	*1*	*-2*
Oklahoma	434	397	400	*3*	*-34*
Total	**12,770**	**13,105**	**13,182**	***77***	***412***

Sources: EIA and OPEC.

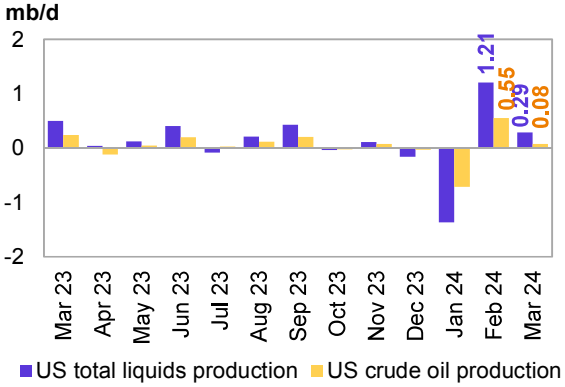
In terms of individual US states, New Mexico's oil production rose by 32 tb/d to average 2.0 mb/d, which is 0.2 mb/d higher than a year ago. Production from Texas was up by 36 tb/d to average 5.6 mb/d, which is 130 tb/d higher than a year ago. In the Midwest, North Dakota's production fell by 34 tb/d, m-o-m, to average 1.2 mb/d, up 120 tb/d, y-o-y, while Oklahoma's production increased by just 3 tb/d m-o-m, to average 0.4 mb/d. Production in Colorado rose by 5 tb/d, m-o-m, while output in Alaska remained mostly unchanged.

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



Sources: EIA and OPEC.

Graph 5 - 6: US monthly crude oil and total liquids supply, m-o-m changes



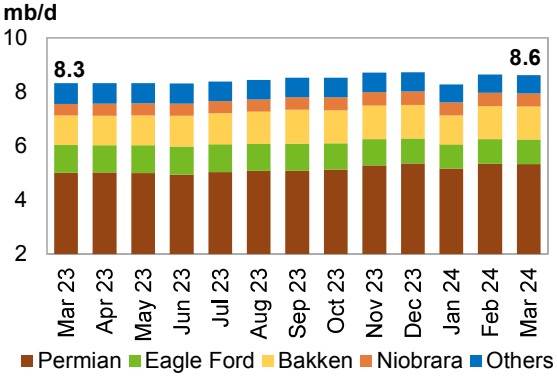
Sources: EIA and OPEC.

US tight crude output in March is estimated to have fallen by 26 tb/d, m-o-m, to average 8.6 mb/d, according to the latest estimates from the US Energy Information Administration (EIA). This was 0.3 mb/d higher than in the same month last year.

The m-o-m drop from shale and tight formations using horizontal wells came mainly from Permian shale production in Texas and New Mexico, where output fell by 11 tb/d for an average of 5.3 mb/d. However, this was up by 0.3 mb/d, y-o-y.

In North Dakota, Bakken shale oil output remained largely unchanged, m-o-m. It averaged 1.2 mb/d, or 130 tb/d higher, y-o-y. Tight crude output at Eagle Ford in Texas remained unchanged at an average of 0.9 mb/d, albeit down by 103 tb/d, y-o-y. Production at Niobrara-Codell in Colorado and Wyoming was largely unchanged at an average of 490 tb/d.

Graph 5 - 7: US tight crude output breakdown

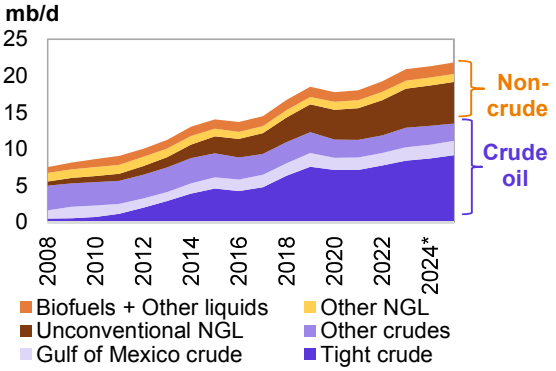


Sources: EIA and OPEC.

US liquids production in 2024, excluding processing gains, is expected to grow by 0.4 mb/d, y-o-y, to average 21.3 mb/d. This is broadly unchanged from the previous assessment. The forecast assumes a modest level of drilling activity and fewer supply chain/logistical issues this year at the prolific Permian, Bakken and Eagle Ford shale sites.

Crude oil and condensate output in 2024 are expected to increase by 0.3 mb/d, y-o-y, to average 13.2 mb/d. At the same time, NGLs production and that of non-conventional liquids, particularly ethanol, is projected to increase by 0.1 mb/d and 30 tb/d, y-o-y, to average 6.6 mb/d and 1.6 mb/d, respectively.

Graph 5 - 8: US liquids supply developments by component



*Note: * 2024-2025 = Forecast.*
Source: OPEC.

Average tight crude output in 2024 is expected to reach 8.8 mb/d, up by 0.4 mb/d, y-o-y. The 2024 forecast assumes ongoing capital discipline and less inflationary pressure, as well as moderating supply chain issues and oil field service constraints. At the same time, well productivity and operational efficiency improvements are expected to support crude production amid moderate drilling activity increases.

US liquids production, excluding processing gains, is expected to grow by 0.5 mb/d, y-o-y, to average 21.8 mb/d in 2025. This assumes a mild increase in drilling activity, lower service cost inflation and continued well productivity improvements in the key shale basins. Crude oil and condensate output is expected to rise by 0.3 mb/d, y-o-y, to average 13.5 mb/d. At the same time, NGLs production and that of non-conventional liquids, particularly ethanol, is projected to increase, y-o-y, by 0.2 mb/d and 20 tb/d, to average 6.7 mb/d and 1.6 mb/d, respectively. Average tight crude output in 2025 is expected to reach 9.2 mb/d, up by 0.4 mb/d, y-o-y. The 2025 forecast assumes ongoing capital discipline in the US upstream sector.

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

US liquids	2023	*Change* 2023/22	2024*	*Change* 2024/23	2025*	*Change* 2025/24
Tight crude	8.40	0.64	8.76	0.36	9.16	0.40
Gulf of Mexico crude	1.86	0.13	1.86	0.00	1.95	0.09
Conventional crude oil	2.66	0.25	2.60	-0.06	2.40	-0.20
Total crude	**12.93**	**1.02**	**13.22**	**0.30**	**13.51**	**0.29**
Unconventional NGLs	5.31	0.53	5.46	0.15	5.67	0.21
Conventional NGLs	1.12	-0.03	1.09	-0.03	1.07	-0.02
Total NGLs	**6.43**	**0.50**	**6.55**	**0.12**	**6.74**	**0.19**
Biofuels + Other liquids	1.54	0.10	1.57	0.03	1.59	0.02
US total supply	**20.90**	**1.61**	**21.34**	**0.44**	**21.84**	**0.50**

*Note: * 2024-2025 = Forecast.*

Sources: EIA, OPEC and Rystad Energy.

US tight crude production in the Permian during 2024 is expected to increase by 0.3 mb/d, y-o-y, to average 5.4 mb/d. In 2025, it is forecast to grow by 0.3 mb/d, y-o-y, to average 5.7 mb/d.

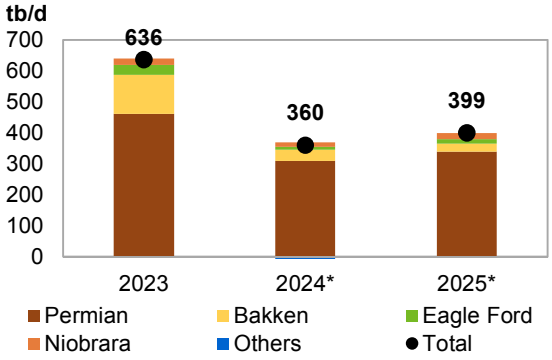
In North Dakota, Bakken shale production is still expected to remain below the pre-pandemic average of 1.4 mb/d. Growth of just 35 tb/d and 25 tb/d is expected for 2024 and 2025, respectively, for an average of around 1.2 mb/d over both years. This trend could indicate maturity in the basin.

Eagle Ford in Texas saw an output of 1.2 mb/d in 2019, followed by declines in 2020 and 2021, and no meaningful growth in 2022. With an estimated growth of about 33 tb/d for 2023, output is around an average of 1.0 mb/d. Minor growth of 10 tb/d and 15 tb/d is expected for 2024 and 2025, respectively.

Niobrara's production is expected to rise by around 15 tb/d, y-o-y, in 2024, to average 0.5 mb/d. With an expected growth of 20 tb/d, the output is forecast to remain at 0.5 mb/d for 2025.

In the remaining tight plays, which are experiencing a modest pace in drilling and completion activities, production is expected to drop by a minor 9 tb/d this year and to stabilize in 2025.

Graph 5 - 9: US tight crude output by shale play, y-o-y changes



*Note: * 2024-2025 = Forecast.*
Sources: EIA and OPEC.

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

US tight oil	2023	Change 2023/22	2024*	Change 2024/23	2025*	Change 2025/24
Permian tight	5.06	0.46	5.37	0.31	5.71	0.34
Bakken shale	1.16	0.13	1.19	0.04	1.22	0.03
Eagle Ford shale	1.00	0.03	1.01	0.01	1.02	0.02
Niobrara shale	0.45	0.02	0.47	0.02	0.49	0.02
Other tight plays	0.73	0.00	0.72	-0.01	0.72	0.00
Total	**8.40**	**0.64**	**8.76**	**0.36**	**9.16**	**0.40**

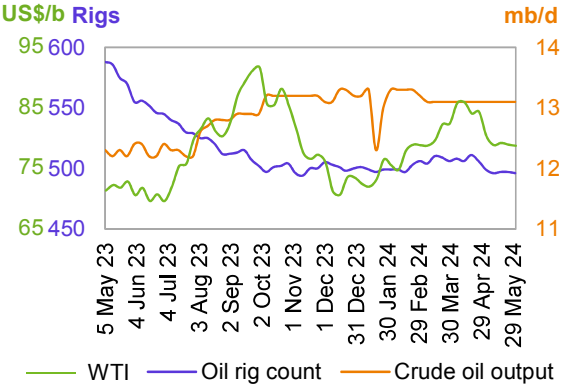
*Note: * 2024-2025 = Forecast.*
Source: OPEC.

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

The total number of active US oil and gas drilling rigs in the week ending 31 May 2024 remained unchanged at 600, according to Baker Hughes. This is 96 fewer rigs than a year ago. The number of active offshore rigs rose by one, w-o-w, to 22. This is two more than in the same month a year earlier. The number of onshore oil and gas rigs dropped by one, w-o-w, to stand at 578, with no rigs in inland waters. This is down by 96 rigs, y-o-y.

The US horizontal rig count dropped by one, w-o-w, to 536, compared with 628 horizontal rigs a year ago. The number of drilling rigs for oil fell by one, w-o-w, to 496, while the number of gas drilling rigs rose by one, w-o-w, to 100.

Graph 5 - 10: US weekly rig count vs. US crude oil output and WTI price



Sources: Baker Hughes, EIA and OPEC.

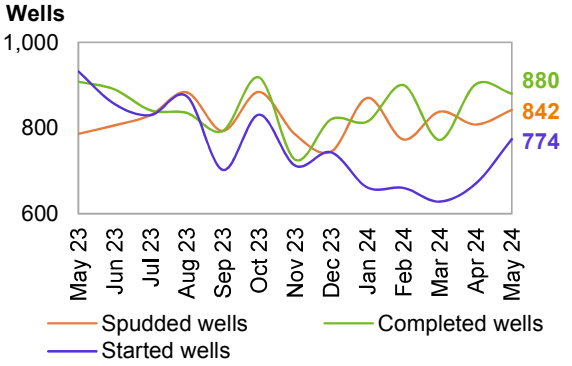
The Permian's rig count fell by two, w-o-w, to 310. Rig counts remained unchanged in Williston and DJ-Niobrara at 34 and 10, respectively. The number of rigs rose by one, w-o-w, in Eagle Ford to 51, while it dropped by four in Cana Woodford to 17.

Drilling and completion (D&C) activities for spudded, completed and started oil-producing wells in all US shale plays included 808 horizontal wells spudded in April (as per preliminary data), based on the US EIA Drilling Productivity Report. This is lower by 30, m-o-m, and 1% higher than in April of last year.

Preliminary data for April indicates a higher number of completed wells, m-o-m, at 902, though the number is down by 4%, y-o-y. The number of started wells is estimated at 670, which is 25% lower than a year earlier.

Preliminary data for May saw 842 spudded, 880 completed and 774 started wells, according to Rystad Energy.

Graph 5 - 11: Spudded, completed and started wells in US shale plays

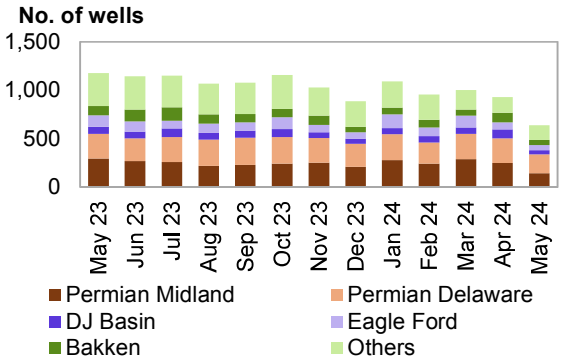


Note: Apr 24-May 24 = Preliminary data.
Sources: Rystad Energy and OPEC.

In terms of identified US oil and gas fracking operations by region, Rystad Energy reported that 1,001 wells were fracked in March. In April and May, it stated that 929 and 637 wells began fracking, respectively, according to preliminary numbers based on an analysis of high-frequency satellite data.

In regional terms, preliminary April data shows that 247 and 257 wells were fracked in the Permian Midland and Permian Delaware regions, respectively. There was a drop of 42 wells in the Midland region and a decline of three in Delaware compared with March. Data also indicates that 90 wells were fracked in the DJ Basin, 76 in Eagle Ford and 98 in Bakken during April.

Graph 5 - 12: Fracked wells count per month



Note: Mar 24-Apr 24 = Preliminary data.
Sources: Rystad Energy Shale Well Cube and OPEC.

Canada

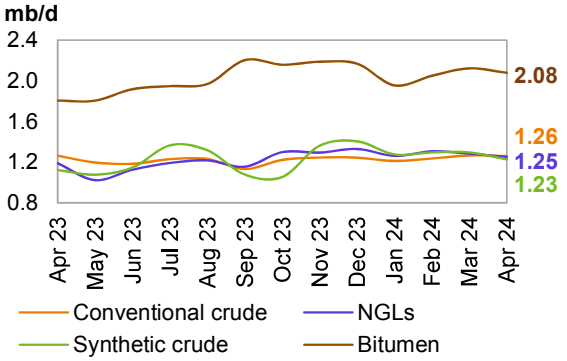
Canada's liquids production in April is estimated to have dropped by about 150 tb/d, m-o-m, to average 5.9 mb/d.

Conventional crude production fell in April by a minor 7 tb/d, m-o-m, to an average of 1.3 mb/d. NGLs output was down by 33 tb/d, m-o-m, to average 1.3 mb/d.

Crude bitumen production output fell in April by 44 tb/d, m-o-m, and synthetic crude production dropped by 67 tb/d, m-o-m. Taken together, crude bitumen and synthetic crude production fell by 0.1 mb/d to 3.3 mb/d.

An early start to wildfires in Western Canada on the back of below-average precipitation this season has led to concerns about potential impacts on production. Continued extreme wildfire conditions could threaten oil sand operations across northeastern Alberta and affect expected production this year.

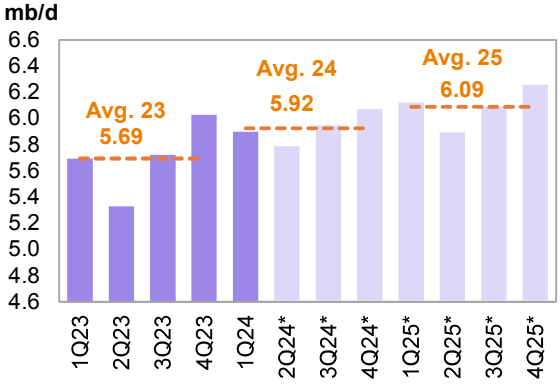
Graph 5 - 13: Canada's monthly liquids production development by type



Sources: Statistics Canada, Alberta Energy Regulator and OPEC.

In 2024, Canada's liquids production is forecast to increase at a much faster pace compared with 2023, rising by 0.2 mb/d to an average of 5.9 mb/d. Incremental production is expected to come from oil sands project ramp-ups, optimization, and the expansion of existing facilities in areas like Montney, Kearl and Fort Hills, in addition to some conventional field growth. At the same time, new trade flows could stimulate production amid the commissioning of the Trans Mountain Expansion (TMX) pipeline.

Graph 5 - 14: Canada's quarterly liquids production and forecast



*Note: * 2Q24-4Q25 = Forecast. Source: OPEC.*

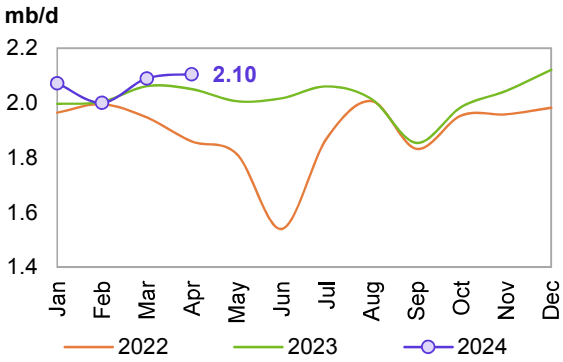
Canada's liquids production is forecast to grow by 0.2 mb/d to average 6.1 mb/d in 2025. Additional production is expected to come from expanding oil sands projects and some growth in conventional fields. Sources of production are primarily expected from the Athabasca, Syncrude Mildred Lake, Kearl, Horizon, Christina Lake, Suncor and Foster Creek oil sands projects. The main start-ups in 2025 are expected to be Syncrude Mildred Lake/Aurora, Narrows Lake, Lloyd Thermal, Cold Lake Oil Sands and Montney Play.

OECD Europe

Norway

Norwegian liquids production in April rose by 15 tb/d, m-o-m, to average 2.1 mb/d. Norway's crude production increased by 10 tb/d, m-o-m, in April to average 1.9 mb/d. This remained close to historical highs and was up by 51 tb/d, y-o-y. Monthly oil production was 5.2% higher than the Norwegian Offshore Directorate's (NOD) forecast.

Graph 5 - 15: Norway's monthly liquids production development



Sources: The Norwegian Offshore Directorate (NOD) and OPEC.

Production of NGLs and condensate rose by just 5 tb/d, m-o-m, to average 0.3 mb/d, according to NOD data.

For 2024, Norwegian liquids production is forecast to increase by 0.1 mb/d to average 2.1 mb/d. This was revised down by a minor 8 tb/d from the previous assessment. Several projects are scheduled to ramp up this year. At the same time, start-ups are expected at the Balder/Ringhorne, Eldfisk, Kristin, Hanz and PL636 offshore projects, along with the Alvheim and Skarv Aasgard floating, production, storage and offloading (FPSO) projects. Johan Castberg is projected to be the main source of output growth, with the first oil planned for later this year. It should be noted that according to ConocoPhillips the Eldfisk North project, located in the Greater Ekofisk Area of the North Sea, produced first oil some weeks ahead of plan in May.

In 2025, Norwegian liquids production is forecast to grow by 0.1 mb/d to average 2.2 mb/d. Several small-to-large-scale projects are scheduled to ramp up in 2025, including Johan Castberg, Kristin, Eldfisk and Balder/Ringhorne. At the same time, start-ups are expected at the Ormen Lange, Snohvit, Halten East, Tyrving, Eirin, Norne FPSO, Maria and Verdande projects.

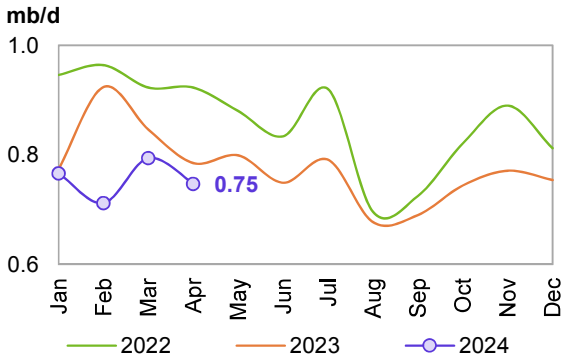
UK

In April, UK liquids production dropped by 47 tb/d, m-o-m, to average 0.7 mb/d. Crude oil output fell by 43 tb/d, m-o-m, to average 0.6 mb/d, and was lower by 54 tb/d, y-o-y, according to official data. NGLs output rose by a minor 6 tb/d, to average 81 tb/d.

For 2024, UK liquids production is forecast to drop by about 10 tb/d to an average of 0.8 mb/d. Production ramp-ups will be seen at the ETAP and Clair sites, as well as at the Anasuria and Captain enhanced oil recovery (EOR) start-up projects. The Penguins FPSO unit is expected to be towed out to the UK North Sea fields in 2H24.

UK liquids production is forecast to stay steady at an average of 0.8 mb/d in 2025. Production ramp-ups will be seen at the Clair sites and Schiehallion. Elsewhere, project start-ups are expected at the Alwyn, Laggan-Tormore, Murlach (Skua redevelopment) and Janice assets. However, decline rates from the ageing basin are expected to offset these additional volumes.

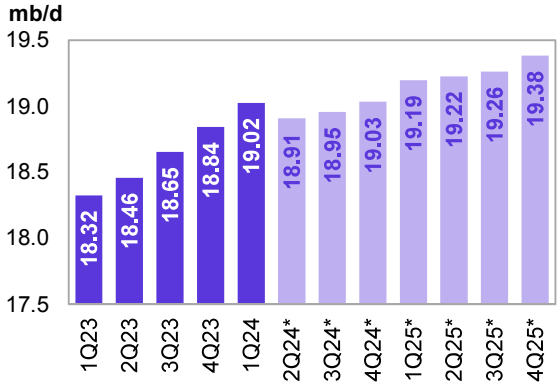
Graph 5 - 16: UK monthly liquids production development



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

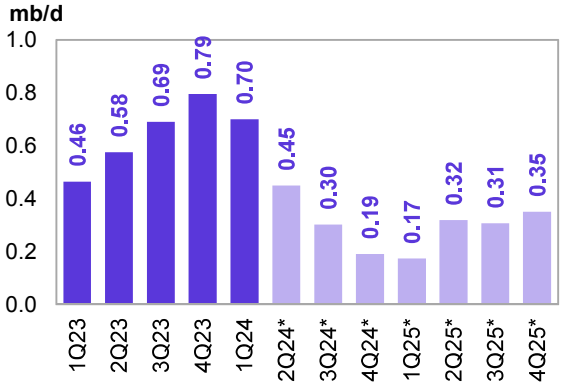
Non-OECD

Graph 5 - 17: Non-OECD quarterly liquids production and forecast



*Note: * 2Q24-4Q25 = Forecast. Source: OPEC.*

Graph 5 - 18: Non-OECD quarterly liquids supply, y-o-y changes

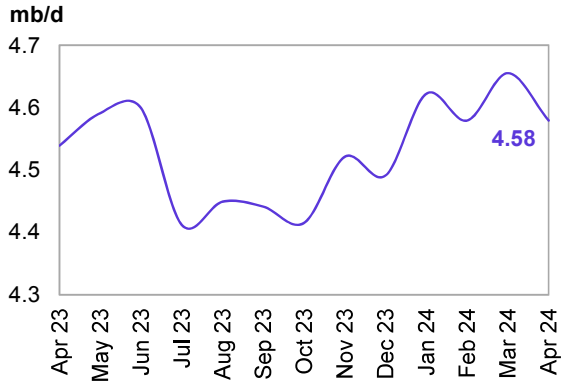


*Note: * 2Q24-4Q25 = Forecast. Source: OPEC.*

China

China's liquids production fell by 76 tb/d, m-o-m, to average 4.6 mb/d in April. This is up by 40 tb/d, y-o-y, according to official data. Crude oil output in April averaged 4.3 mb/d, down by 76 tb/d compared with the previous month, but higher by 46 tb/d, y-o-y. Conversely, NGLs and condensate production remained unchanged, m-o-m, at an average of 40 tb/d.

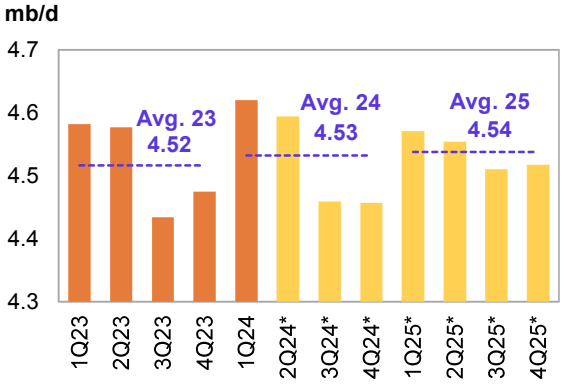
Graph 5 - 19: China's monthly liquids production development



Sources: CNPC and OPEC.

For 2024, China's liquids production is expected to rise by about 15 tb/d, y-o-y, and is forecast to average 4.5 mb/d. This is largely unchanged from the previous assessment. Natural decline rates are anticipated to be offset by additional growth through more infill wells and EOR projects. Chinese majors are set to maintain high upstream Capex in 2024 to meet the growth requirements stated in the 2019 Seven-Year Exploration and Production Increase Action Plan. For this year, Lingshui 17-2, Lufeng, Liuhua 11-1, Xi'nan, Bozhong 19-2 Oilfield Development, Shayan and Liuhua 4-1 (redevelopment), which are operated by CNOOC, PetroChina and Sinopec, are expected to come on stream. At the same time, key ramp-ups are planned for Changqing, Kenli 10-2, Wushi 17-2 and Kenli 6-4.

Graph 5 - 20: China's quarterly liquids production and forecast



*Note: * 2Q24-4Q25 = Forecast. Sources: CNPC and OPEC.*

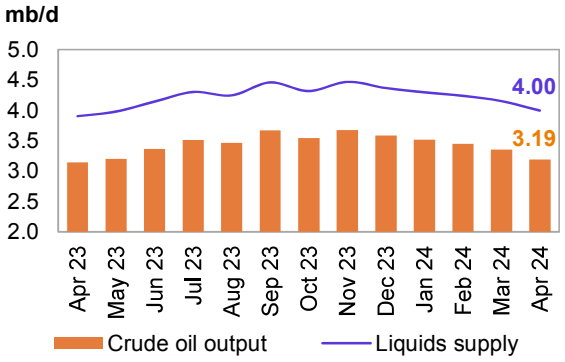
In 2025, Chinese liquids production is expected to remain steady, y-o-y, and is forecast to average 4.5 mb/d. For next year, oil and gas condensate projects like Bozhong 19-6, Huizhou 26-6, Peng Lai 19-9, Shengli, Wushi 17-2, Liaohe and Xijiang 30-2, which are operated by CNOOC and Sinopec, are expected to come on stream. At the same time, key ramp-ups are planned for Changqing, Tarim, Xibei, Peng Lai 19-9 and Xi'nan.

Latin America

Brazil

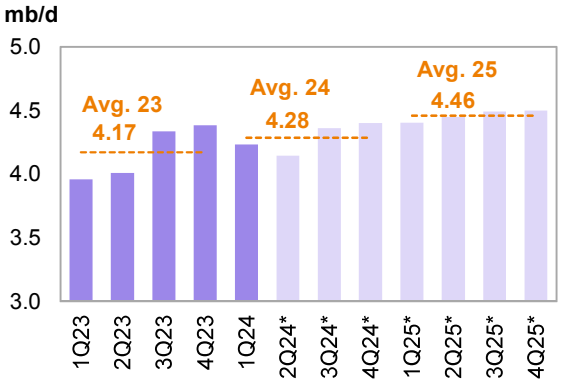
Brazil's crude output in April fell by 162 tb/d, m-o-m, to average 3.2 mb/d. The April drop in output was primarily driven by maintenance, operational issues and natural decline. NGLs production, however, remained largely unchanged, at an average of around 80 tb/d, and is expected to remain flat in May 2024. Biofuel output (mainly ethanol) remained unchanged, m-o-m, at an average of 0.7 mb/d, with preliminary data showing a stable trend in May. The country's total liquids production dropped by 0.2 mb/d in April to average 4.0 mb/d, although this was higher by 0.1 mb/d, y-o-y.

Graph 5 - 21: Brazil's monthly liquids production development by type



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

Graph 5 - 22: Brazil's quarterly liquids production



*Note: * 2Q24-4Q25 = Forecast. Sources: ANP and OPEC.*

For 2024, Brazil's liquids supply, including biofuels, is forecast to grow by about 0.1 mb/d, y-o-y, to average 4.3 mb/d. Crude oil output is expected to increase through production ramp-ups in the Buzios (Franco), Mero (Libra NW), Tupi (Lula) and Itapu (Florim) fields. Oil project start-ups are expected at the Buzios, Atlanta, Pampo-Enchova Cluster and Vida sites. However, increasing costs in the offshore market and inflation might continue to delay projects and temper growth in the short term. Mooring operations have started in the Santos Basin offshore Brazil for Enauta's FPSO Atlanta. The platform is expected to start production by August and is designed to process 50 tb/d of oil from the Atlanta Field.

Brazil's liquids supply, including biofuels, is forecast to increase by about 180 tb/d, y-o-y, to average 4.5 mb/d in 2025. Crude oil output is expected to increase through production ramp-ups in the Buzios (Franco), Mero (Libra NW), Tupi (Lula), Marlim and Atlanta fields. Oil project start-ups are expected at the Buzios, Bacalhau (x-Carcara), Parque das Baleias and Lapa (Carioca) fields.

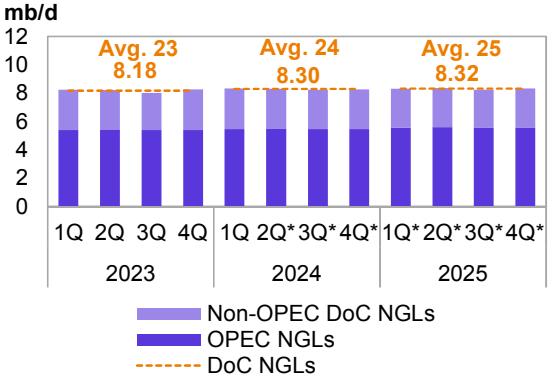
DoC NGLs and non-conventional liquids

DoC NGLs and non-conventional liquids are estimated to expand by about 0.1 mb/d in 2024 to average 8.3 mb/d.

Preliminary data shows NGLs and non-conventional liquids output in 1Q24 averaging 8.4 mb/d. According to preliminary April data, 5.5 mb/d and 2.9 mb/d of NGLs and non-conventional liquids are estimated to have been produced by OPEC Member Countries and non-OPEC DoC countries, respectively.

The **2025** forecast points toward a combined increase of about 20 tb/d for an average of 8.3 mb/d. NGLs and non-conventional liquids production are projected to grow by 0.1 mb/d to average 5.5 mb/d for OPEC Member Countries. However, it is expected to drop by about 50 tb/d for non-OPEC DoC countries.

Graph 5 - 23: DoC NGLs and non-conventional liquids quarterly production and forecast



*Note: * 2Q24-4Q25 = Forecast. Source: OPEC.*

Table 5 - 6: DoC NGLs + non-conventional liquids, mb/d

DoC NGLs and non-coventional liquids	2023	Change 23/22	2024	Change 24/23	1Q25	2Q25	3Q25	4Q25	2025	Change 25/24
OPEC	**5.41**	*0.05*	**5.47**	*0.06*	5.55	5.61	5.58	5.58	**5.58**	*0.11*
Non-OPEC DoC	**2.77**	*0.20*	**2.83**	*0.06*	2.78	2.76	2.66	2.76	**2.74**	*-0.09*
Total	**8.18**	***0.25***	**8.30**	***0.12***	**8.33**	**8.37**	**8.24**	**8.34**	**8.32**	***0.02***

Note: 2024-2025 = Forecast.

Source: OPEC.

DoC crude oil production

According to secondary sources, total OPEC-12 crude oil production averaged 26.63 mb/d in May 2024, 29 tb/d higher, m-o-m. Crude oil output increased mainly in Nigeria, Gabon and Equatorial Guinea, while production in Saudi Arabia, Kuwait, Libya and Congo decreased.

At the same time, total non-OPEC DoC crude oil production averaged 14.29 mb/d in May 2024, 152 tb/d lower, m-o-m. Crude oil output increased mainly in Mexico, while production in Russia and Kazakhstan decreased.

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

Secondary sources	2022	2023	3Q23	4Q23	1Q24	Mar 24	Apr 24	May 24	*Change* May/Apr
Algeria	1,013	973	949	957	907	909	909	903	*-6*
Congo	261	261	259	251	246	250	267	256	*-11*
Equatorial Guinea	84	56	59	53	55	59	50	63	*13*
Gabon	195	203	202	216	214	222	203	220	*17*
IR Iran	2,554	2,859	3,005	3,154	3,177	3,207	3,219	3,226	*7*
Iraq	4,439	4,287	4,308	4,324	4,244	4,237	4,202	4,195	*-7*
Kuwait	2,704	2,595	2,560	2,552	2,431	2,430	2,433	2,418	*-15*
Libya	981	1,162	1,158	1,170	1,119	1,171	1,187	1,173	*-14*
Nigeria	1,210	1,314	1,279	1,381	1,414	1,378	1,345	1,419	*74*
Saudi Arabia	10,531	9,609	8,994	8,953	9,012	9,038	9,032	9,000	*-32*
UAE	3,066	2,950	2,912	2,906	2,927	2,924	2,928	2,935	*7*
Venezuela	684	749	767	774	816	822	825	822	*-3*
Total OPEC	**27,722**	**27,018**	**26,452**	**26,690**	**26,562**	**26,646**	**26,600**	**26,629**	***29***
Azerbaijan	560	503	496	487	477	480	480	478	*-1*
Bahrain	193	182	176	182	167	165	177	187	*9*
Brunei	75	72	70	77	80	78	74	77	*3*
Kazakhstan	1,489	1,597	1,529	1,606	1,613	1,612	1,573	1,511	*-62*
Malaysia	395	375	361	376	360	360	368	368	*-1*
Mexico	1,667	1,645	1,645	1,624	1,609	1,633	1,610	1,625	*14*
Oman	850	819	807	807	772	764	766	766	*0*
Russia	9,771	9,581	9,493	9,496	9,431	9,476	9,301	9,182	*-119*
Sudan	62	54	53	47	35	29	28	25	*-3*
South Sudan	144	146	151	153	109	71	67	75	*8*
Total Non-OPEC DoC	**15,206**	**14,972**	**14,781**	**14,855**	**14,653**	**14,669**	**14,445**	**14,293**	***-152***
Total DoC	**42,927**	**41,990**	**41,233**	**41,545**	**41,215**	**41,315**	**41,045**	**40,922**	***-123***

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

Source: OPEC.

OPEC crude oil production

OPEC crude oil production for May, as reported by OPEC Member Countries, is shown in the ***Table 5 – 8*** below.

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

Direct communication	2022	2023	3Q23	4Q23	1Q24	Mar 24	Apr 24	May 24	*Change* May/Apr
Algeria	1,020	973	951	958	907	907	907	901	*-6*
Congo	262	271	269	259	252	254	259	264	*5*
Equatorial Guinea	81	55	58	53	53	60	60	62	*1*
Gabon	191	223	232	234	..	..	..	..	..
IR Iran	..	..	..	..	..	..	..	..	..
Iraq	4,453	4,117	4,101	4,123	3,957	3,903	3,891	3,860	*-31*
Kuwait	2,707	2,590	2,548	2,548	2,413	2,413	2,413	2,413	*0*
Libya	..	1,189	1,187	1,191	1,149	1,236	1,218	..	..
Nigeria	1,138	1,234	1,201	1,313	1,327	1,231	1,281	1,251	*-30*
Saudi Arabia	10,591	9,606	8,969	8,901	8,979	8,973	8,986	8,993	*7*
UAE	3,064	2,944	2,904	2,892	2,919	2,918	2,917	2,933	*16*
Venezuela	716	783	797	796	864	874	878	910	*32*
Total OPEC	..	..	..	..	..	..	..	..	..

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

Source: OPEC.

Commercial Stock Movements

Preliminary April 2024 data shows total OECD commercial oil stocks up by 16.6 mb, m-o-m. At 2,773 mb, they were 49 mb lower than the same time one year ago, 110 mb less than the latest five-year average and 154 mb below the 2015–2019 average. Within the components, crude stocks rose by 19.5 mb, while product stocks fell 2.9 mb, m-o-m, respectively.

OECD commercial crude stocks stood at 1,376 mb. This was 36 mb lower than the same time a year ago, 49 mb below the latest five-year average, and 96 mb less than the 2015-2019 average.

OECD total product stocks stood at 1,396 mb. This is 13 mb less than the same time a year ago, 61 mb lower than the latest five-year average, and 58 mb below the 2015–2019 average.

In terms of days of forward cover, OECD commercial stocks increased in April by 0.1 days, m-o-m, to stand at 60.1 days. This is 1.2 days lower than the level registered in April 2023, 4.9 days below the latest five-year average, and 2.2 days less than the 2015–2019 average.

Preliminary data for May 2024 shows that total US commercial oil stocks rose by 37.2 mb, m-o-m, to stand at 1,277 mb. This is 16.6 mb, or 1.3%, higher than the same month in 2023, but 18.4 mb, or 1.4%, below the latest five-year average. Crude stocks fell by 3.6 mb, while product stocks rose by 40.8 mb, m-o-m.

OECD

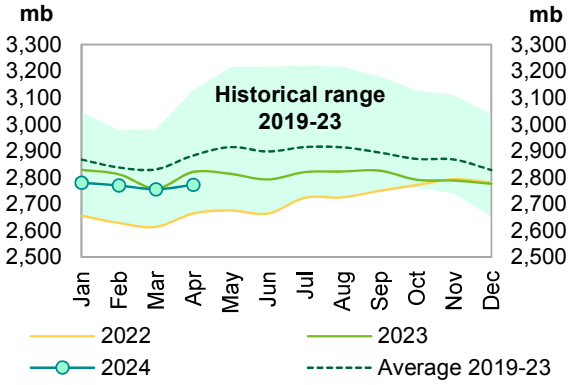
Preliminary April 2024 data shows total OECD commercial oil stocks up by 16.6 mb, m-o-m. At 2,773 mb, they were 49 mb lower than the same time one year ago and 110 mb less than the latest five-year average and 154 mb below the 2015–2019 average.

Within the components, crude stocks rose by 19.5 mb, while product stocks fell 2.9 mb, m-o-m, respectively.

Within the OECD regions, in April, total commercial oil stocks rose in OECD Americas and OECD Asia Pacific, while they fell in OECD Europe.

OECD commercial crude stocks rose by 19.5 mb, m-o-m, ending April at 1,376 mb. This was 36 mb lower than the same time a year ago, 49 mb below the latest five-year average, and 96 mb less than the 2015–2019 average.

Graph 9 - 1: OECD commercial oil stocks



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

Within the OECD regions, OECD Americas and OECD Asia Pacific saw crude stock builds of 12.3 mb and 5.1 mb, m-o-m, respectively. Crude stocks in OECD Europe rose by 2.0 mb, m-o-m.

OECD total product stocks fell by 2.9 mb in April to stand at 1,396 mb. This is 13 mb less than the same time a year ago, 61 mb lower than the latest five-year average, and 58 mb below the 2015–2019 average.

Within the OECD regions, product stocks in OECD Asia-Pacific witnessed a build of 4.1 mb, m-o-m, while OECD Americas and OECD Europe product stocks dropped by 2.3 mb and 4.7 mb, respectively.

Table 9 - 1: OECD commercial stocks, mb

OECD stocks	Apr 23	Feb 24	Mar 24	Apr 24	Change Apr 24/Mar 24
Crude oil	1,412	1,360	1,357	1,376	*19.5*
Products	1,409	1,410	1,399	1,396	*-2.9*
Total	**2,821**	**2,770**	**2,756**	**2,773**	***16.6***
Days of forward cover	**61.2**	**60.5**	**60.0**	**60.1**	***0.1***

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

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

In terms of days of forward cover, OECD commercial stocks increased in April by 0.1 days, m-o-m, to stand at 60.1 days. This is 1.2 days less than the level registered in April 2023, 4.9 days lower than the latest five-year average, and 2.2 days less than the 2015–2019 average.

Within the OECD regions, OECD Americas stood at 5.5 days and OECD Europe 5.2 days below the latest five-year average, at 58.3 days and 68.7 days, respectively. OECD Asia Pacific was 2.3 days less than the latest five-year average, standing at 49.8 days.

OECD Americas

OECD Americas' total commercial stocks rose in April by 10.0 mb, m-o-m, to settle at 1,490 mb. This is 16.6 mb lower than the same month in 2023 and 45.8 mb below the latest five-year average.

Commercial crude oil stocks in OECD Americas rose in April by 12.3 mb, m-o-m, to stand at 791 mb, which is 9.9 mb higher than in April 2023, but 3.0 mb lower than the latest five-year average.

In contrast, total product stocks in OECD Americas fell by 2.3 mb, m-o-m, in April to stand at 699 mb. This is 26.5 mb lower than the same month in 2023 and 42.8 mb below the latest five-year average. Higher consumption in the region was behind the product stock draw.

OECD Europe

OECD Europe's total commercial stocks fell in April by 2.7 mb, m-o-m, to settle at 937 mb. This is 11.3 mb less than the same month in 2023, and 45.5 mb below the latest five-year average.

OECD Europe's commercial crude stocks increased by 2.0 mb, m-o-m, to end April at 403 mb. This is 27.5 mb less than one year ago and 29.0 mb lower than the latest five-year average.

By contrast, total product stocks fell by 4.7 mb, m-o-m, to end April at 533 mb. This is 16.2 mb higher than the same time a year ago, but 16.6 mb below the latest five-year average.

OECD Asia Pacific

OECD Asia Pacific's total commercial oil stocks rose in April by 9.2 mb, m-o-m, to stand at 346 mb. This is 20.8 mb lower than the same time a year ago and 19.0 mb below the latest five-year average.

OECD Asia Pacific's crude stocks rose by 5.1 mb, m-o-m, to end April at 182 mb. This is 18.3 mb lower than one year ago, and 16.9 mb less than the latest five-year average.

OECD Asia Pacific's total product stocks increased by 4.1 mb, m-o-m, to end April at 164 mb. This is 2.5 mb lower than one year ago and 2.0 mb below the latest five-year average.

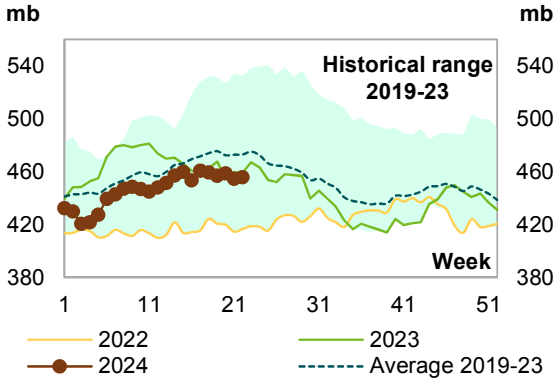
US

Preliminary data for May 2024 shows that total US commercial oil stocks rose by 37.2 mb, m-o-m, to stand at 1,277 mb. This is 16.6 mb, or 1.3%, higher than the same month in 2023, but 18.4 mb, or 1.4%, below the latest five-year average. Crude stocks fell by 3.6 mb, while product stocks rose by 40.8 mb, m-o-m.

US commercial crude stocks in May stood at 456 mb. This is 4.9 mb, or 1.1%, lower than the same month in 2023, and 15.2 mb, or 3.2%, below the latest five-year average. The monthly draw in crude oil stocks is attributable to higher crude runs, which increased by 730 tb/d or 3.8 pp, m-o-m, to average 17.04 in May.

By contrast, total product stocks rose in May to stand at 821 mb. This is 21.5 mb, or 2.7%, higher than in May 2023, but 3.2 mb, or 0.4%, below the latest five-year average. The product stock build can be attributed to lower product consumption.

Graph 9 - 2: US weekly commercial crude oil inventories



Sources: EIA and OPEC.

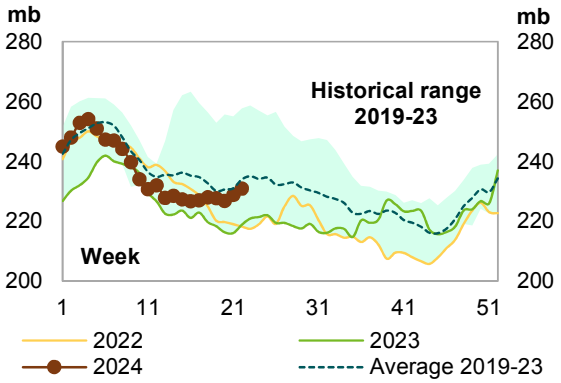
Gasoline stocks rose in May by 2.9 mb, m-o-m, to settle at 230.9 mb. This is 8.8 mb, or 4.0%, higher than the same month in 2023, but 4.6 mb, or 2.0%, below the latest five-year average.

Distillate stocks in May rose by 6.1 mb, m-o-m, to stand at 122.5 mb. This is 9.3 mb, or 8.3%, higher than the same month in 2023, but 11.3 mb, or 8.4%, below the latest five-year average.

Jet fuel stocks increased by 1.8 mb, m-o-m, ending May at 43.1 mb. This is 0.6 mb, or 1.3%, higher than the same month in 2023, and 1.7 mb, or 4.1%, above the latest five-year average.

Residual fuel oil stocks in May rose by 0.3 mb, m-o-m. At 28.5 mb, they were 4.2 mb, or 12.9%, less than a year earlier, and 4.0 mb, or 12.4%, 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	May 23	Mar 24	Apr 24	May 24	Change May 24/Apr 24
Crude oil	**460.8**	**447.2**	**459.5**	**455.9**	***-3.6***
Gasoline	222.1	233.4	228.0	230.9	*2.9*
Distillate fuel	113.1	121.2	116.4	122.5	*6.1*
Residual fuel oil	32.8	29.9	28.2	28.5	*0.3*
Jet fuel	42.5	42.2	41.3	43.1	*1.8*
Total products	**799.2**	**783.0**	**780.0**	**820.7**	***40.8***
Total	**1,260.0**	**1,230.3**	**1,239.5**	**1,276.6**	***37.2***
SPR	**354.4**	**363.9**	**367.2**	**370.2**	***3.0***

Sources: EIA and OPEC.

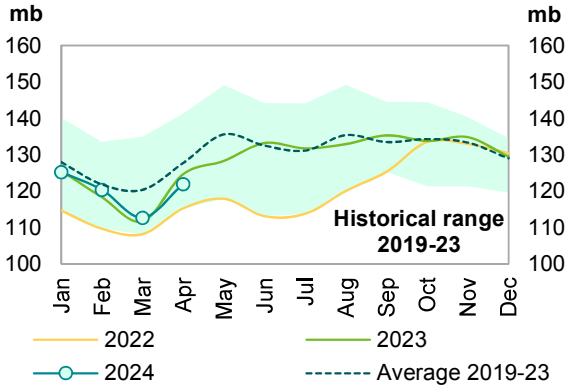
Japan

In Japan, total commercial oil stocks in April 2024 rose by 9.2 mb, m-o-m, to settle at 121.9 mb. This is 2.8 mb, or 2.2%, lower than the same month in 2023 and 5.8 mb, or 4.5%, below the latest five-year average. Crude and product stocks rose by 5.1 mb and 4.1 mb, m-o-m, respectively.

Japanese commercial crude oil stocks rose in April by 5.1 mb, m-o-m, to stand at 67.7 mb. This is 2.3 mb, or 3.2%, lower than the same month in 2023 and 4.4 mb, or 6.2%, below the latest five-year average. The build in crude stocks came on the back of higher crude imports, which increased in April by 228 tb/d, or 9.5%, m-o-m, to average 2.6 mb/d.

Gasoline stocks rose by 0.7 mb, m-o-m, to stand at 10.5 mb in April. This is 0.1 mb, or 0.7%, higher than a year earlier, but 0.8 mb, or 7.5%, lower than the latest five-year average. The build in gasoline stocks came on the back of lower gasoline domestic sales, which fell by 5.1%, m-o-m, in April.

Graph 9 - 4: Japan's commercial oil stocks



Sources: METI and OPEC.

Distillate stocks rose by 1.4 mb, m-o-m, to end April at 21.7 mb. This is 0.3 mb, or 1.6%, lower than the same month in 2023 and 0.8 mb, or 3.4%, lower than the latest five-year average. Within the distillate components, jet fuel, gasoil and kerosene stocks rose by 4.3%, 11.2% and 4.3%, respectively.

Total residual fuel oil stocks rose m-o-m by 1.7 mb to end April at 12.8 mb. This is 1.3 mb, or 11.1%, higher than the same month in 2023, and 0.7 mb, or 6.1%, above the latest five-year average. Within the components, fuel oil A and fuel oil B.C stocks rose by 13.7% and 16.9%, respectively.

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

Japan's stocks	Apr 23	Feb 24	Mar 24	Apr 24	Change Apr 24/Mar 24
Crude oil	**70.0**	**65.9**	**62.6**	**67.7**	***5.1***
Gasoline	10.5	10.8	9.8	10.5	*0.7*
Naphtha	10.7	7.5	9.0	9.2	*0.2*
Middle distillates	22.1	24.4	20.3	21.7	*1.4*
Residual fuel oil	11.5	11.7	11.0	12.8	*1.7*
Total products	**54.7**	**54.4**	**50.1**	**54.2**	***4.1***
Total**	**124.7**	**120.4**	**112.7**	**121.9**	***9.2***

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

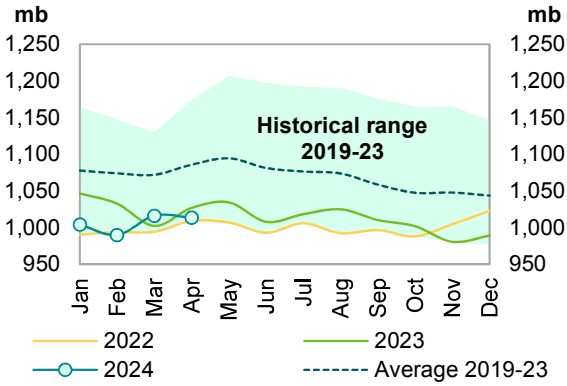
Sources: METI and OPEC.

EU-14 plus UK and Norway

Preliminary data for April 2024 showed that total European commercial oil stocks fell by 2.7 mb, m-o-m, to stand at 1,014 mb. At this level, they were 13.1 mb, or 1.3%, below the same month in 2023, and 71.9 mb, or 6.6%, less than the latest five-year average. Crude stocks rose by 2.0 mb, m-o-m, while product stocks fell by 4.7 mb, m-o-m.

European crude stocks stood at 421.2 mb in April. This is 21.2 mb, or 4.8%, lower than the same month in 2023 and 43.0 mb, or 9.3%, below the latest five-year average. The build in crude oil stocks came despite higher refinery throughput in the EU-14, plus the UK and Norway, which increased by around 380 tb/d or 4.2%, m-o-m, to stand at 9.45 mb/d.

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



Sources: Argus, Euroilstock and OPEC.

Total European product stocks fell by 4.7 mb, m-o-m, to end April at 592.6 mb. This is 8.1 mb, or 1.4%, higher than the same month in 2023, but 29.0 mb, or 4.7%, below the latest five-year average. The stock draw can be attributed to higher demand in the region.

Gasoline stocks fell in April by 1.0 mb, m-o-m, to stand at 111.1 mb, which is 6.3 mb, or 6.0%, higher than the same time in 2023, but 3.3 mb, or 2.9%, below the latest five-year average.

Middle distillate stocks decreased in April by 4.5 mb, m-o-m, to stand at 394.1 mb. This is 3.4 mb, or 0.9%, higher than the same month in 2023, but 18.1 mb, or 4.4%, lower than the latest five-year average.

Naphtha stocks were down in April by 1.2 mb, m-o-m, ending the month at 26.7 mb. This is 0.4 mb, or 1.6%, below the same month in 2023, and 3.7 mb, or 12.3 %, lower than the latest five-year average.

By contrast, residual fuel stocks rose in April by 2.0 mb, m-o-m, to stand at 60.7 mb. This is 2.0 mb, or 3.2%, lower than the same month in 2023 and 3.9 mb, or 6.0%, below the latest five-year average.

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

EU stocks	Apr 23	Feb 24	Mar 24	Apr 24	Change Apr 24/Mar 24
Crude oil	**442.4**	**411.3**	**419.2**	**421.2**	***2.0***
Gasoline	104.9	110.0	112.1	111.1	*-1.0*
Naphtha	26.3	25.5	27.9	26.7	*-1.2*
Middle distillates	390.7	385.0	398.6	394.1	*-4.5*
Fuel oils	62.6	58.4	58.6	60.7	*2.0*
Total products	**584.5**	**578.9**	**597.3**	**592.6**	***-4.7***
Total	**1,026.9**	**990.2**	**1,016.5**	**1,013.8**	***-2.7***

Sources: Argus, Euroilstock and OPEC.

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

Singapore

In April, total product stocks in Singapore fell by 1.7 mb, m-o-m, to stand at 45 mb. This is 0.9 mb, or 2.0%, lower than the same month in 2023 and 2.6 mb, or 5.4%, below the latest five-year average.

Light distillate stocks rose in April by 0.3 mb, m-o-m, to stand at 15.6 mb. This is 0.4 mb, or 2.5%, higher than the same month in 2023, and 1.4 mb, or 10.1%, above the latest five-year average.

Middle distillate stocks increased in April by 1.2 mb, m-o-m, to stand at 11.4 mb. This is 3.4 mb, or 42.6%, higher than in April 2023, and 0.8 mb, or 7.7%, above the latest five-year average.

By contrast, residual fuel oil stocks fell by 3.2 mb, m-o-m, ending April at 18.0 mb. This is 4.7 mb, or 20.8%, lower than in April 2023, and 4.8 mb, or 21.1%, below the latest five-year average.

ARA

Total product stocks in ARA in April rose by 2.0 mb, m-o-m. At 47.3 mb, they were 2.1 mb, or 4.6%, above the same month in 2023, and 3.0 mb, or 6.8 %, higher than the latest five-year average.

Gasoil stocks in April increased by 0.9 mb, m-o-m, to stand at 16.6 mb. This is 0.1 mb, or 0.4%, less than the same month in 2023, but 0.1 mb, or 0.9%, higher than the latest five-year average.

Jet oil stocks rose by 0.9 mb, m-o-m, to stand at 6.6 mb in April. This is 0.6 mb, or 8.5%, below the level seen in April 2023 and broadly in line with the latest five-year average.

Fuel oil stocks rose in April by 0.8 mb, m-o-m, to stand at 10.2 mb. This is 2.2 mb, or 28.2%, higher than in April 2023 and 2.1 mb, or 26.3%, above the latest five-year average.

By contrast, gasoline stocks fell by 1.7 mb, m-o-m, ending April at 8.8 mb. This is 2.2 mb, or 20.3%, lower than in April 2023, and 1.5 mb, or 14.7%, below the latest five-year average.

Fujairah

During the week ending 3 June 2024, total oil product stocks in Fujairah rose by 1.21 mb, w-o-w, to stand at 21.57 mb, according to data from FEDCom and S&P Global Commodity Insights. At this level, total oil stocks were 2.75 mb lower than at the same time a year ago.

Light distillate stocks rose by 0.16 mb, w-o-w, to stand at 7.15 mb, which is 0.73 mb lower than a year ago.

Middle distillate stocks increased by 0.46 mb, w-o-w, to stand at 3.72 mb, which is 0.63 mb less than the same time last year.

Heavy distillate stocks also rose by 0.59 mb, w-o-w, to stand at 10.70 mb, which is 1.39 mb below the same time a year ago.

Balance of Supply and Demand

Demand for DoC crude (i.e. crude from countries participating in the Declaration of Cooperation) is unchanged from the previous assessment at 43.2 mb/d in 2024, around 0.9 mb/d higher than the estimate for 2023.

Demand for DoC crude in 2025 remains unchanged from the previous assessment to stand at 43.9 mb/d, around 0.7 mb/d higher than the estimate for 2024.

Balance of supply and demand in 2024

Demand for DoC crude

Demand for DoC crude in 2024 is unchanged from the previous assessment at 43.2 mb/d, around 0.9 mb/d higher than the estimate for 2023.

Table 10 - 1: DoC supply/demand balance for 2024*, mb/d

	2023	1Q24	2Q24	3Q24	4Q24	2024	Change 2024/23
(a) World oil demand	**102.2**	**103.5**	**103.8**	**104.9**	**105.6**	**104.5**	***2.2***
Non-DoC liquids production	51.7	52.6	52.8	53.0	53.4	53.0	*1.2*
DoC NGL and non-conventionals	8.2	8.4	8.3	8.2	8.3	8.3	*0.1*
(b) Total non-DoC liquids production and DoC NGLs	**59.9**	**60.9**	**61.1**	**61.3**	**61.7**	**61.3**	***1.4***
Difference (a-b)	**42.3**	**42.6**	**42.7**	**43.6**	**43.9**	**43.2**	***0.9***
DoC crude oil production	**42.0**	**41.2**					
Balance	**-0.3**	**-1.3**					

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

Source: OPEC.

Balance of supply and demand in 2025

Demand for DoC crude

Demand for DoC crude in 2025 remains unchanged from the previous assessment to stand at 43.9 mb/d, around 0.7 mb/d higher than the estimate for 2024.

Table 10 - 2: DoC supply/demand balance for 2025*, mb/d

	2024	1Q25	2Q25	3Q25	4Q25	2025	Change 2025/24
(a) World oil demand	**104.5**	**105.3**	**105.5**	**107.0**	**107.4**	**106.3**	***1.8***
Non-DoC liquids production	53.0	54.0	53.7	54.0	54.6	54.1	*1.1*
DoC NGL and non-conventionals	8.3	8.3	8.4	8.2	8.3	8.3	*0.0*
(b) Total non-DoC liquids production and DoC NGLs	**61.3**	**62.3**	**62.1**	**62.2**	**62.9**	**62.4**	***1.1***
Difference (a-b)	**43.2**	**43.0**	**43.5**	**44.8**	**44.4**	**43.9**	***0.7***

*Note: * 2025 = 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	2021	2022	2023	1Q24	2Q24	3Q24	4Q24	2024	1Q25	2Q25	3Q25	4Q25	2025
World demand													
Americas	24.0	24.8	25.0	24.6	25.4	25.6	25.4	25.2	24.6	25.4	25.7	25.5	25.3
of which US	*19.8*	*20.2*	*20.4*	*20.0*	*20.7*	*20.7*	*20.8*	*20.5*	*20.0*	*20.7*	*20.7*	*20.9*	*20.6*
Europe	13.2	13.5	13.4	13.1	13.6	13.7	13.3	13.4	13.1	13.6	13.7	13.4	13.4
Asia Pacific	7.3	7.4	7.3	7.8	7.0	7.1	7.5	7.3	7.8	7.0	7.1	7.5	7.3
Total OECD	**44.5**	**45.7**	**45.7**	**45.4**	**45.9**	**46.4**	**46.3**	**46.0**	**45.5**	**46.0**	**46.5**	**46.4**	**46.1**
China	15.4	15.0	16.3	16.5	16.8	17.2	17.3	17.0	17.0	17.2	17.7	17.7	17.4
India	4.8	5.1	5.3	5.7	5.7	5.4	5.6	5.6	5.9	5.9	5.6	5.8	5.8
Other Asia	8.7	9.1	9.3	9.7	9.8	9.5	9.5	9.6	10.0	10.1	9.8	9.8	9.9
Latin America	6.2	6.4	6.7	6.8	6.9	7.0	6.9	6.9	6.9	7.1	7.2	7.1	7.1
Middle East	7.8	8.3	8.6	8.8	8.6	9.2	9.0	8.9	9.1	8.9	9.7	9.4	9.3
Africa	4.2	4.4	4.5	4.6	4.4	4.4	4.8	4.6	4.8	4.5	4.5	4.9	4.7
Russia	3.6	3.8	3.8	3.9	3.8	4.0	4.1	3.9	4.0	3.9	4.0	4.1	4.0
Other Eurasia	1.2	1.2	1.2	1.3	1.2	1.1	1.3	1.2	1.3	1.3	1.1	1.3	1.3
Other Europe	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Total Non-OECD	**52.7**	**54.0**	**56.5**	**58.1**	**57.9**	**58.5**	**59.3**	**58.5**	**59.8**	**59.5**	**60.4**	**61.0**	**60.2**
(a) Total world demand	**97.2**	**99.7**	**102.2**	**103.5**	**103.8**	**104.9**	**105.6**	**104.5**	**105.3**	**105.5**	**107.0**	**107.4**	**106.3**
Y-o-y change	***5.9***	***2.5***	***2.6***	***2.3***	***2.0***	***2.5***	***2.1***	***2.2***	***1.8***	***1.7***	***2.1***	***1.8***	***1.8***
Non-DoC liquids production													
Americas	23.5	24.9	26.6	26.9	27.2	27.4	27.6	27.3	27.9	27.7	27.9	28.3	27.9
of which US	*18.1*	*19.3*	*20.9*	*21.0*	*21.4*	*21.4*	*21.5*	*21.3*	*21.7*	*21.8*	*21.8*	*22.0*	*21.8*
Europe	3.8	3.6	3.7	3.7	3.7	3.7	3.9	3.8	3.9	3.8	3.8	3.9	3.9
Asia Pacific	0.5	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Total OECD	**27.8**	**29.0**	**30.7**	**31.0**	**31.4**	**31.5**	**31.9**	**31.5**	**32.2**	**31.9**	**32.1**	**32.6**	**32.2**
China	4.3	4.4	4.5	4.6	4.6	4.5	4.5	4.5	4.6	4.6	4.5	4.5	4.5
India	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Other Asia	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.6
Latin America	6.0	6.3	7.0	7.3	7.2	7.4	7.5	7.3	7.5	7.5	7.6	7.8	7.6
Middle East	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Africa	2.3	2.3	2.2	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Other Eurasia	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Other Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total Non-OECD	**17.5**	**17.9**	**18.6**	**19.0**	**18.9**	**19.0**	**19.0**	**19.0**	**19.2**	**19.2**	**19.3**	**19.4**	**19.3**
Total Non-DoC production	45.4	46.9	49.3	50.1	50.3	50.5	50.9	50.4	51.4	51.1	51.4	52.0	51.5
Processing gains	2.3	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.6
Total Non-DoC liquids production	**47.7**	**49.3**	**51.7**	**52.6**	**52.8**	**53.0**	**53.4**	**53.0**	**54.0**	**53.7**	**54.0**	**54.6**	**54.1**
DoC NGLs	7.6	7.9	8.2	8.4	8.3	8.2	8.3	8.3	8.3	8.4	8.2	8.3	8.3
(b) Total Non-DoC liquids production and DoC NGLs	**55.3**	**57.2**	**59.9**	**60.9**	**61.1**	**61.3**	**61.7**	**61.3**	**62.3**	**62.1**	**62.2**	**62.9**	**62.4**
Y-o-y change	***0.6***	***1.9***	***2.7***	***2.0***	***1.8***	***1.2***	***0.5***	***1.4***	***1.4***	***1.0***	***0.9***	***1.2***	***1.1***
OPEC crude oil production (secondary sources)	25.2	27.7	27.0	26.6	0.63	0.62	0.63	0.62	0.64	0.65	0.68	0.79	0.69
Non-OPEC DoC crude production	15.0	15.1	15.0	14.7									
DoC crude oil production	**40.3**	**42.8**	**42.0**	**41.2**									
Total liquids production	**95.5**	**100.1**	**101.9**	**102.2**									
Balance (stock change and miscellaneous)	*-1.6*	*0.4*	*-0.3*	*-1.3*									
OECD closing stock levels, *mb*													
Commercial	2,652	2,781	2,777	2,756									
SPR	1,484	1,214	1,207	1,215									
Total	**4,136**	**3,995**	**3,984**	**3,971**									
Oil-on-water	1,348	1,546	1,438	1,460									
Days of forward consumption in OECD, *days*													
Commercial onland stocks	58	61	60	60									
SPR	32	27	26	26									
Total	**91**	**87**	**87**	**86**									
Memo items													
(a) - (b)	**41.9**	**42.4**	**42.3**	**42.6**	**42.7**	**43.6**	**43.9**	**43.2**	**43.0**	**43.5**	**44.8**	**44.4**	**43.9**

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

Source: OPEC.

https://www.iea.org/reports/oil-market-report-june-2024

Oil Market Report - June 2024

About this report

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

Highlights

- World oil demand growth continues to slow, with 2024 gains now seen at 960 kb/d, 100 kb/d below last month's forecast. Weak OECD deliveries pushed global demand into a narrow y-o-y contraction in March. Subpar growth of 1 mb/d in 2025 is held back by a muted economy and accelerating clean energy technology deployment.
- Global oil supply rose by 520 kb/d in May to 102.5 mb/d, as Brazilian ethanol output surged seasonally. For the year as a whole, production increases by 690 kb/d, led by non-OPEC+ gains of 1.4 mb/d. OPEC+ supply falls by 740 kb/d if voluntary cuts are maintained. In 2025, global supply is forecast to rise by 1.8 mb/d, as non-OPEC+ output increases by 1.5 mb/d.
- Refining margins in Asia retreated to three-year lows in May and are now close to run cut territory. US Gulf Coast refining profitability slipped back to six-month lows but remains above European levels. 2024 and 2025 crude runs forecasts are 100 kb/d higher than last month's Report, at 83.5 mb/d and 84.2 mb/d, respectively. Stronger OECD 2Q24 throughputs outpaced still-weak Chinese runs, which slumped to Covid-era lows in April.
- Global observed oil inventories built by 19.3 mb in April. On land stocks surged by 83.5 mb after eight-months of draws, while oil on water plunged by 64.2 mb following 112.6 mb of increases in the previous two months. OECD industry stocks rose by 32.1 mb, its first monthly increase since October. Preliminary data suggest a further 48.2 mb build in May.
- Brent crude futures fell by $6/bbl in May as inventory builds pointed to a comfortably supplied Atlantic Basin market. Prices slid another $4/bbl after the 2 June OPEC+ meeting, with traders taking a bearish view of the gradual unwinding of last year's voluntary output cuts. Oil's price structure weakened in parallel, with front-month spreads briefly slipping into contango. At the time of writing, Brent was trading at around $81.50/bbl.

Adjusting lower

Brent crude futures continued to slide in May and early June, as flagging oil demand growth and inventory builds pointed to a comfortably supplied market. Brent futures fell by $6/bbl in May, before tumbling further in early June after the OPEC+ alliance announced plans to gradually unwind last year's extra voluntary output cuts starting in 4Q24. Traders' initial response was overwhelmingly bearish, with prices falling to a low of around $77.50/bbl, but OPEC+ officials quickly reiterated that a rollback of output reductions will be contingent on market conditions. At the time of writing, Brent had rebounded to $81.50/bbl – still about $11/bbl below early April's 2024 highs.

In May, global observed onshore oil inventories swelled for a second consecutive month as lacklustre demand met with robust oil supply. Preliminary, albeit incomplete, data show oil

stocks rising by 48.2 mb last month, led by the United States and China. The increase comes on top of a 19.3 mb build in April, when on-land stocks surged by 83.5 mb after eight months of draws. Oil on water plunged by 64.2 mb, however, partly reversing the 112.6 mb increase seen over the previous two months. OECD industry inventories rose in by April 32.1 mb, largely in line with seasonal trends, but remained 94.7 mb below their five-year average.

These stock builds come amid continued oil demand slowdowns in key markets, most notably the OECD. US and European data undershot expectations as exceptional gasoil weakness aligned with challenging industrial conditions. Overall annual gains in March of 650 kb/d for non-OECD countries failed to offset the 815 kb/d contraction in the OECD, resulting in an overall decline in demand of 165 kb/d year-on-year. Preliminary data for April and May point to further weakness, with Chinese demand growth slumping from 800 kb/d on average in 1Q24 to only 95 kb/d in April. As a result, we have adjusted lower our expectations for 2024 global oil demand growth by a further 100 kb/d to 960 kb/d. Oil's subdued outlook is expected to carry forward into 2025, with a modest increase of 1 mb/d reflecting lacklustre economic growth, an expanding EV fleet and vehicle efficiency gains.

The latest bout of demand weakness shows up in refining margins in Asia and the United States, which retreated to three-year lows in May. Singapore margins are close to, if not already in, run cut territory, with gasoline cracks particularly weak. By contrast, Europe is hanging onto recent strength more effectively, as jet/kerosene cracks improved. Meanwhile, Chinese refinery runs slumped to Covid-era levels in April and an 8.7% y-o-y decline in Chinese crude oil imports in May suggest subdued runs again last month.

As for supply, OPEC+ has laid out a roadmap for unwinding extra voluntary supply reductions of up to 2.2 mb/d from 4Q24 through 3Q25. Given the bloc's assurances that the production increase can be paused or reversed subject to market conditions, we will adjust our OPEC+ supply numbers when such a decision is confirmed. On that basis, global oil supply looks set to rise by 690 kb/d on average this year, led by a 1.4 mb/d increase from non-OPEC+ countries. Next year could see gains of 1.8 mb/d in total, with non-OPEC+ up 1.5 mb/d and OPEC+ 320 kb/d higher. With oil demand expected to remain weak, supplies may have to be adjusted lower next year, rather than higher.

OPEC+ crude oil production[1]

million barrels per day

	Apr 2024 Supply	May 2024 Supply	May Prod vs Target	May-2024 Implied Target[1]	Sustainable Capacity[2]	Eff Spare Cap vs May[3]
Algeria	0.91	0.9	-0.01	0.91	0.99	0.09
Congo	0.26	0.26	-0.02	0.28	0.27	0.01
Equatorial Guinea	0.05	0.06	-0.01	0.07	0.06	0.0
Gabon	0.21	0.22	0.05	0.17	0.22	0.0
Iraq	4.24	4.28	0.28	4.0	4.87	0.59
Kuwait	2.49	2.49	0.08	2.41	2.88	0.39
Nigeria	1.28	1.35	-0.15	1.5	1.42	0.07
Saudi Arabia	9.03	9.03	0.05	8.98	12.11	3.08
UAE	3.23	3.25	0.34	2.91	4.28	1.03
Total OPEC-9[4]	**21.7**	**21.84**	**0.62**	**21.22**	**27.1**	**5.26**
Iran[5]	3.35	3.31			3.8	
Libya[5]	1.19	1.19			1.23	0.04
Venezuela[5]	0.86	0.88			0.87	-0.01
Total OPEC	**27.1**	**27.22**			**33.0**	**5.29**
Azerbaijan	0.48	0.48	-0.07	0.55	0.49	0.01
Kazakhstan	1.59	1.49	0.02	1.47	1.62	0.13
Mexico[6]	1.55	1.59			1.6	0.0
Oman	0.76	0.76	0.0	0.76	0.85	0.09
Russia	9.3	9.22	0.17	9.05	9.76	
Others [7]	0.76	0.76	-0.11	0.87	0.86	0.1
Total Non-OPEC	**14.44**	**14.3**	**0.01**	**12.7**	**15.17**	**0.33**
OPEC+ 18 in Nov 2022 deal[5]	**34.59**	**34.55**	**0.63**	**33.92**	**40.67**	**5.58**
Total OPEC+	**41.54**	**41.52**			**48.17**	**5.62**

1. Includes extra voluntary curbs where announced. 2. Capacity levels can be reached within 90 days and sustained for an extended period. 3. Excludes shut in Iranian, Russian crude. 4. Angola left OPEC effective 1 Jan 2024. 5. Iran, Libya, Venezuela exempt from cuts. 6. Mexico excluded from OPEC+ compliance. 7. Bahrain, Brunei, Malaysia, Sudan and South Sudan.

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

2024-06-12 08:00:00.4 GMT

By Kristian Siedenburg

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

	4Q 2025	3Q 2025	2Q 2025	1Q 2025	4Q 2024	3Q 2024	2Q 2024	1Q 2024	2025	2024
	Demand									
Total Demand	105.1	105.3	103.9	102.6	104.1	104.2	103.0	101.5	104.2	103.2
Total OECD	45.7	45.8	45.0	44.8	45.9	45.8	45.4	44.8	45.3	45.5
Americas	25.1	25.4	24.9	24.5	25.1	25.3	25.0	24.4	25.0	24.9
Europe	13.2	13.6	13.2	12.8	13.3	13.5	13.4	12.9	13.2	13.3
Asia Oceania	7.4	6.9	6.9	7.6	7.5	7.0	7.0	7.5	7.2	7.3
Non-OECD countries	59.4	59.5	58.9	57.8	58.2	58.4	57.6	56.7	58.9	57.7
FSU	5.0	5.1	4.8	4.8	5.0	5.0	4.8	4.8	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	17.7	17.8	17.5	17.0	17.4	17.4	17.1	16.6	17.5	17.1
Other Asia	15.5	14.9	15.4	15.4	15.1	14.6	15.0	15.1	15.3	14.9
Americas	6.7	6.7	6.6	6.4	6.6	6.6	6.5	6.4	6.6	6.5
Middle East	9.1	9.7	9.2	8.8	8.9	9.5	9.0	8.6	9.2	9.0
Africa	4.6	4.5	4.5	4.5	4.5	4.4	4.4	4.4	4.5	4.4
	Supply									
Total Supply	n/a	n/a	n/a	n/a	n/a	n/a	n/a	101.9	n/a	n/a
Non-OPEC	72.8	72.2	71.6	70.8	71.0	70.6	69.7	69.5	71.9	70.2
Total OECD	33.0	32.4	32.5	32.3	32.4	31.8	31.5	31.3	32.5	31.8
Americas	29.2	28.7	28.7	28.6	28.7	28.3	27.9	27.6	28.8	28.1
Europe	3.4	3.2	3.3	3.3	3.2	3.0	3.2	3.3	3.3	3.2
Asia Oceania	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.5
Non-OECD	34.0	33.6	33.3	33.2	33.0	32.8	32.5	33.0	33.5	32.8
FSU	13.8	13.8	13.7	13.6	13.5	13.4	13.4	13.8	13.7	13.5
Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	4.4	4.4	4.5	4.5	4.4	4.4	4.4	4.4	4.5	4.4
Other Asia	2.5	2.5	2.5	2.5	2.6	2.6	2.6	2.7	2.5	2.6
Americas	7.3	7.0	6.6	6.6	6.7	6.6	6.4	6.5	6.9	6.5
Middle East	3.2	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.2	3.1
Africa	2.7	2.7	2.7	2.6	2.6	2.6	2.5	2.5	2.7	2.5
Processing Gains	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.4	2.4
Total OPEC	n/a	n/a	n/a	n/a	n/a	n/a	n/a	32.4	n/a	n/a
Crude	n/a	n/a	n/a	n/a	n/a	n/a	n/a	26.9	n/a	n/a
Natural gas liquids NGLs	5.7	5.7	5.7	5.6	5.6	5.6	5.6	5.5	5.7	5.6
Call on OPEC crude and stock change *	26.6	27.4	26.6	26.2	27.5	28.0	27.7	26.5	26.7	27.4

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

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

SOURCE: International Energy Agency

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IEA: May Crude Oil Production in OPEC Countries (Table)

2024-06-12 08:00:00.3 GMT

By Kristian Siedenburg

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

	May 2024	April 2024	May MoM
Total OPEC	27.22	27.10	0.12
Total OPEC9	21.84	21.70	0.14
Algeria	0.90	0.91	-0.01
Congo	0.26	0.26	0.00
Equatorial Guinea	0.06	0.05	0.01
Gabon	0.22	0.21	0.01
Iraq	4.28	4.24	0.04
Kuwait	2.49	2.49	0.00
Nigeria	1.35	1.28	0.07
Saudi Arabia	9.03	9.03	0.00
UAE	3.25	3.23	0.02
Iran	3.31	3.35	-0.04
Libya	1.19	1.19	0.00
Venezuela	0.88	0.86	0.02

NOTE: Figures are in million of barrels per day. Monthly level change calculated by Bloomberg. Production data excludes condensates.

OPEC9 excludes Iran, Libya and Venezuela.

SOURCE: International Energy Agency

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IEA World Oil Supply/Demand Key Forecasts

2024-06-12 08:00:00.6 GMT

By Kristian Siedenburg

(Bloomberg) -- World oil demand 2025 forecast was revised to 104.2m b/d from 104.3m b/d in Paris-based Intl Energy Agency's latest monthly report.

* 2024 world demand was unrevised at 103.2m b/d
* Demand change in 2025 est. 1% y/y or 1.03m b/d
* Non-OPEC supply 2025 was revised to 71.9m b/d from 71.8m b/d
* Call on OPEC crude 2025 was revised to 26.7m b/d from 26.9m b/d
* Call on OPEC crude 2024 was unrevised at 27.4m b/d
** OPEC crude production in May rose by 120k b/d on the month to 27.2m b/d
* Detailed table: FIFW NSN SEYHOSGFLIIO <GO>
* NOTE: Fcasts based off IEA's table providing one decimal point

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IEA Cuts Oil Demand Forecast Again, Sees Comfortable Supplies
2024-06-12 08:00:00.9 GMT
By Grant Smith
(Bloomberg) -- The International Energy Agency cut its global oil demand growth estimate for 2024 again following weak economic data from the US, Europe and China, according to its monthly report.
* The demand growth forecast is lowered by 100k b/d to 960k b/d a day
** The revision brings the IEA's outlook back down toward its initial estimate for 2024 released last year, reversing several monthly upgrades
* "Flagging oil demand growth and inventory builds" point to "a comfortably supplied market"
** On-land inventories surged by 83.5m bbl in April after eight months of draws
** Inventories swelled again in May as "lackluster demand met with robust oil supply"
* The IEA sees global oil consumption growth of 1m b/d in 2025, below historic trends amid a "muted economy and accelerating clean-energy technology deployment"

* The agency continues to assume OPEC+ cuts will remain in full to end-2025 as the group's roadmap for unwinding them is contingent on markets
** It sees a global surplus each quarter in 2025 even if OPEC+ does maintain the curbs
** "Supplies may have to be adjusted lower next year, rather than higher"

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Oil Outlook From IEA Deals Bulls Another Blow

2024-06-12 08:54:00.719 GMT
By Grant Smith

(Bloomberg) -- Oil prices have only just recovered from the brief setback delivered by OPEC+, and today bulls received a new warning from the producer group's counterpart, the International Energy Agency.

Brent futures are gaining today, trading above $82 a barrel. Crude has recouped losses suffered at the start of the month as Saudi Arabia and its partners reassured traders that they might not go ahead with a planned supply revival after all. Still, those gains could prove short-lived as sentiment absorbs a double-blow from the IEA, which advises major economies. In its latest monthly report, the agency has reversed several months of upgrades to its global demand forecast as economic data disappoints in China, the US and Europe. The agency now sees growth at just 960,000 barrels a day for this year, leaving the market with "comfortable supply."

For next year, the outlook looks fragile too: the IEA assumes that global markets will see a surplus each quarter even if OPEC+ fully abandons that provisional planned supply hike. Furthermore, today also sees the publication of the agency's medium-term report, and the outlook for the rest of the decade is bearish. The IEA warns of a "major surplus" as the

transition away from fossil fuels erodes demand, while the US and other producers in the Americas continue to add production capacity.

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OPEC Crude Output Rose 120k B/D Last Month on Nigeria Flows: IEA
2024-06-12 08:00:00.1 GMT
By Amanda Jordan
(Bloomberg) -- OPEC's crude output in May rose 120k b/d from a month earlier to 27.22m b/d, led by Nigerian supply, the IEA said in its monthly market report.
* Nigerian production climbed 70k b/d to 1.35m b/d
* Iraqi output increased 40k b/d to 4.28m b/d
* Saudi volumes were unchanged at 9.03m b/d
* UAE production edged up 20k b/d to 3.25m b/d
* Kuwaiti flows held steady at 2.49m b/d
* Iran — exempt from OPEC+ cuts — pumped 3.31m b/d, down 40k b/d
* Libyan volumes — also exempt — were flat at 1.19m b/d
* Algerian output was little changed at 900k b/d
* READ, June 11: OPEC Still Sees Strengthening Oil Demand as It Plans Supply Hike

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US Refining Runs Proving Resilient While Europe Sees Slump: IEA

2024-06-12 08:00:00.15 GMT

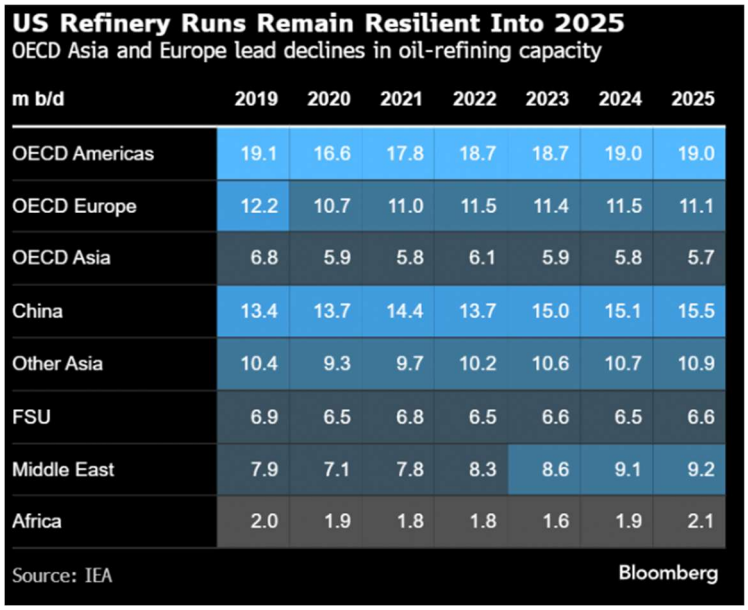
By Rachel Graham

(Bloomberg) -- Crude runs in the Americas will hold near 2019 levels into 2025 at around 19m b/d, according to the IEA's monthly Oil Market Report.

* Runs will fall by 400k b/d next year in Europe as capacity closes

** The drop in runs for OECD Europe next year vs 2019 is more than 1m b/d

* For 2024, the OECD Americas forecast is now about 500k b/d higher than the IEA forecast in January; the forecast for China has fallen to 15.1m b/d, from 15.4m b/d



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Russian Oil Export Revenue at Three-Month Low After Prices Slump

2024-06-12 08:00:00.30 GMT

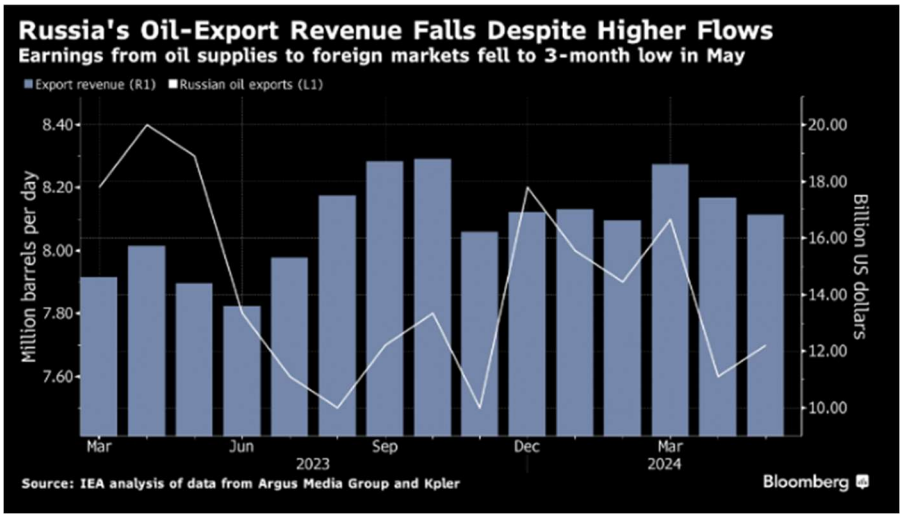
By Bloomberg News

(Bloomberg) -- Russia's revenues from exports of crude and

petroleum products fell to a three-month low in May as a decline in global oil prices offset an increase in shipments, according to the International Energy Agency.

Russia earned $16.8 billion from oil exports in May, the Paris-based agency said in its monthly report published Wednesday. That's 3.5% below the revenues a month before, and the lowest since February, the IEA calculations show. Still, the nation's oil-export earnings jumped by nearly 17% from a year earlier, historical data show.

The decline in the monthly revenues came as the average-weighted price for Russian oil dropped more than 9% to $70.08 per barrel in May amid a downturn in the global market. Russia's crude and petroleum product exports rebounded to 7.7 million barrels a day from 7.6 million in April, the IEA data shows.



The oil industry is a key source of revenue for the Russian budget, burdened with higher military and social spending following the invasion of Ukraine in February 2022.

The nation, one of the world's top three crude producers, has been voluntarily curbing its output since March 2023 to support the pricing of its barrels amid international sanctions, including a price cap imposed by the Group of Seven industrialized countries.

Russia is making the cuts together with its partners in the Organization of Petroleum Exporting Countries, which also need robust oil prices to fund their own budgets. In early June, the OPEC+ alliance laid out a plan to gradually release some of the withheld barrels to the market from October.

Yet oil watchers are concerned that the gradual return of the OPEC+ barrels could result in a supply overhang, with global demand remaining weak. Concern over China's fragile economy and

uncertainty over US monetary policy resulted in a price decline in late April and May, with oil only rebounding after OPEC+ reassured the market its planned production recovery could be paused if needed.

Uncertainty about the compliance of some OPEC+ members with its output pledges is adding to market concerns. In May, Russia was set to curb its daily crude production to 9.049 million barrels under its agreement with the alliance. The nation's actual output was above the target, reaching some 9.22 million barrels a day, according to IEA estimates.

Russia and other laggard nations in the alliance have pledged to compensate for the overproduction, with the plan to be submitted to OPEC by the end of the month.

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Executive summary

Global oil markets navigate a challenging landscape

Global oil markets will need to traverse myriad challenges in the medium-term as structural shifts reshape oil demand and trade flows, while rising oil supplies could potentially weigh on prices through the end of the decade.

Divergent regional economic trajectories and the accelerating deployment of clean and energy-saving technologies are combining to progressively slow the pace of oil demand growth, with a plateau emerging in the final years of our forecast, which runs to 2030. Emerging economies in Asia, particularly China and India, account for all of global demand growth. By contrast, oil demand in advanced economies falls sharply.

Rising world oil supplies, led by non-OPEC+ producers, are expected to surpass forecast demand from 2025 onwards. Mirroring demand's break with long-term trends, a front-loaded build in oil production capacity is forecast to lose momentum and swing into contraction towards the end of our medium-term outlook. A surge in natural gas liquids (NGLs) and condensates will account for 45% of new capacity increases over the forecast period. In a major shift in strategy, Saudi Arabia has put on hold its planned crude oil capacity increase and will now focus on expanding natural gas liquids and condensates, which aligns with its efforts to boost domestic gas supply. It may also reflect an acknowledgment of the rapidly building surplus in global crude oil production capacity. The rise of petrochemicals as the main pillar of global demand growth largely tracks the substantial increase in global supply of NGLs, which are instrumental in their production.

At the same time, these changes will also create new challenges for refiners as demand for refined products is displaced by non-refined products such as NGLs and biofuels. Non-refined fuels are set to capture a staggering three-quarters of projected global demand growth over the 2023-2030 period. Moreover, refiners will need to reconfigure their product slates to meet divergent trends for distillates amid reduced consumption as the energy transition accelerates. This is especially the case in road transport fuels as EVs rapidly increase their market share.

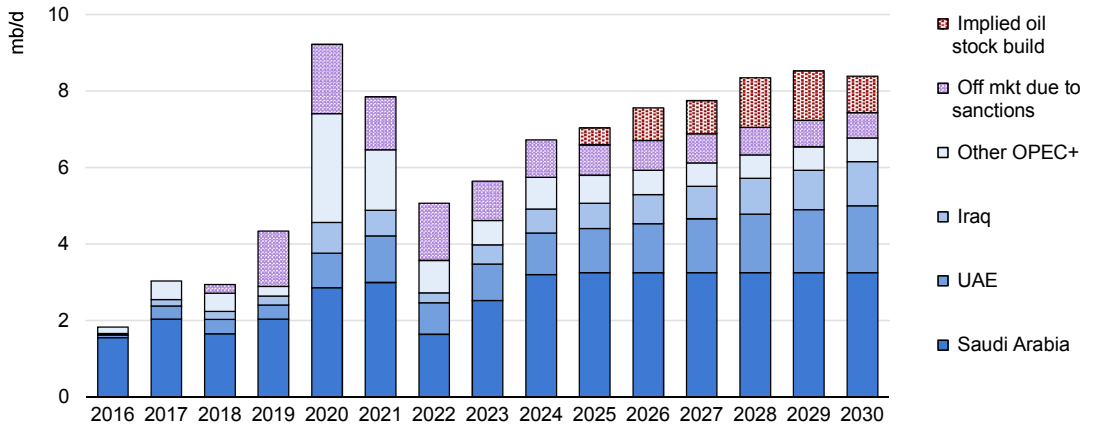
Amid all these structural changes to supply and demand patterns, the global oil market outlook faces further uncertainties from weaker macroeconomic expectations, new government policies and regulations to fast-track the energy transition, and an unprecedented level of investment to scale up more efficient technologies.

While the challenges are formidable, the industry has consistently proved its adaptability to dramatic supply and demand changes, including from the energy crisis brought on by Russia's invasion of Ukraine and the Covid-19 pandemic before that.

Surplus global supply capacity will reach unprecedented levels by 2030

A ramping up of world oil production capacity, led by the United States and other producers in the Americas, is expected to outstrip demand growth over the 2023-2030 forecast period and inflate the world's spare capacity cushion to levels that are unprecedented, barring the Covid-19 period. Total supply capacity rises by 6 mb/d to nearly 113.8 mb/d by 2030, a staggering 8 mb/d above projected global demand of 105.4 mb/d.

OPEC+ spare crude production capacity and implied total oil stock build, 2016-2030



Notes: Projections based on the current OPEC+ supply agreement. OPEC+ countries are crude oil only. Assumes Iran and Russia remain under sanctions. Implied oil stock builds include total oil.

Such a massive cushion could upend the current OPEC+ market management strategy aimed at supporting prices. For now, the producer alliance has laid out a roadmap for unwinding extra voluntary cuts of up to 2.2 mb/d from Q4 2024 to Q3 2025. But this outlook is subject to their caveat that the production increases can be paused or reversed depending on market conditions.

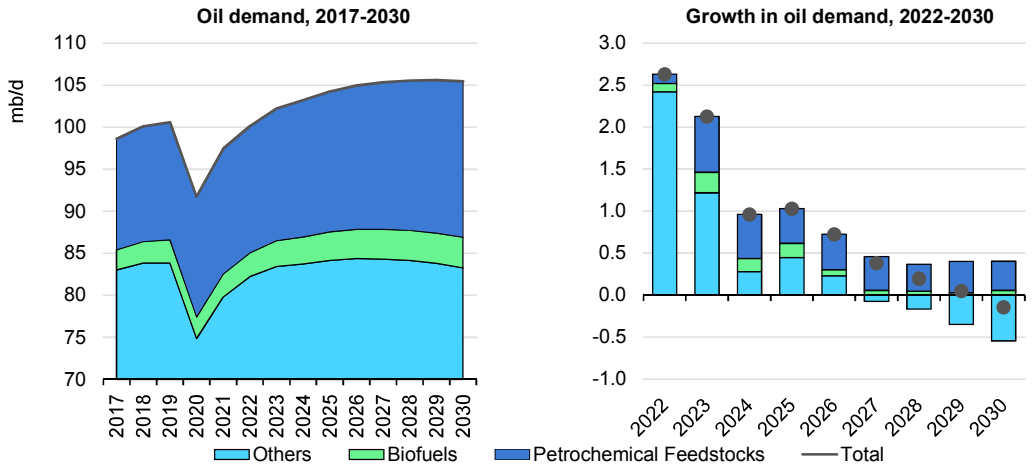
A lower price environment would ultimately challenge the US shale industry, traditionally the fastest respondent to changing market circumstances. How the industry will adapt and adjust to the new supply landscape will have wide-ranging consequences for producers and consumers globally through the remainder of the decade and beyond.

World oil demand tempered by clean energy transition

Based on today's market conditions and policies, global oil demand will level off at around 106 mb/d towards the end of the decade amid the accelerating transition to clean energy technologies. Surging EV sales and continued efficiency improvements of vehicles, and the substitution of oil with renewables or gas in the power sector, will significantly curb oil use in road transport and electricity generation.

Total oil demand is nevertheless forecast to rise by 3.2 mb/d between 2023 and 2030, supported by increased use of jet fuel and feedstocks from the booming petrochemical sector. Indeed, consumption of naphtha, liquified petroleum gas (LPG) and ethane will climb by 3.7 mb/d over the forecast period, fuelled also by growth in LPG use for clean cooking.

World oil demand dominated by growth in petrochemical feedstocks



Growth will be dominated by Asian economies, especially India and China, as oil demand's pivot to emerging markets continues. Demand from the two Asian economic powerhouses will develop in very different ways, however. In China, growth is set to be driven by the petrochemical sector as rapid deployment of clean energy technologies and massive infrastructure investments in high-speed rail blunt demand for transport fuels. In India, transport fuels will defy the global trend, rising sharply. Significant gains will also come from other emerging and developing economies in Asia. By contrast, demand in advanced economies will continue its decades-long decline, falling from 45.7 mb/d in 2023 to 42.7 mb/d by 2030. Apart from during the pandemic, the last time demand was this low was in 1991. Over that same time period, oil demand from emerging and developing economies will have increased by a factor of 2.5.

Upstream investments and oil supply on the rise

In line with the ascendancy of petrochemicals as the anchor of global oil demand growth, 45% of the supply capacity increase over the forecast period comes from NGLs and condensates. While Saudi Arabia has shelved its planned crude capacity increase from 12 mb/d to 13 mb/d, its development of the massive Jafurah gas field will move ahead. This will result in a substantial ramping up of gas liquids output of almost 1 mb/d by 2030, volumes that are not subject to OPEC+ quotas. Strong gains in US NGLs are also expected. Total NGLs and condensates are projected to rise by 2.7 mb/d from 2023 to 2030. By comparison, crude oil production capacity is forecast to increase by 2.6 mb/d over the same period, while biofuels account for 620 kb/d of the 6 mb/d total.

Non-OPEC+ producers will continue to lead the capacity build, accounting for 4.6 mb/d, or 76% of the net increase. The United States alone makes up 2.1 mb/d of the non-OPEC+ gains, while Brazil, Guyana, Canada and Argentina contribute a further 2.7 mb/d. As the sanctioned project queue fizzles out towards the end of our forecast, growth stalls in the United States and Canada while Brazil and Guyana shift into decline based on current plans. However, should companies swiftly approve additional projects that are already on the drawing board, an incremental 1.3 mb/d of non-OPEC+ capacity could become operational by 2030.

Saudi Arabia, the United Arab Emirates (UAE) and Iraq lead a 1.4 mb/d rise in OPEC+ oil capacity as African and Asian members post declines. The UAE and Iraq are raising crude oil capacity while Saudi Arabia is poised for a significant increase NGL and condensates supply. Capacity in Russia is expected to show only a marginal decline despite international sanctions as the giant Vostok project ramps up, helping to offset losses at mature oil fields.

The boost in supply follows a steady increase in upstream investments. Global upstream capital expenditures rose by 13% to an eight-year high of USD 538 billion in 2023 and are on track to increase by another 7% this year.

Refiners adjust to slowing demand for refined fuels

Global refining capacity is forecast to rise by 3.3 mb/d from 2023 to 2030, well below historical trends. Even with the moderate expansion in capacity, the increase outpaces the call on refined products over the period.

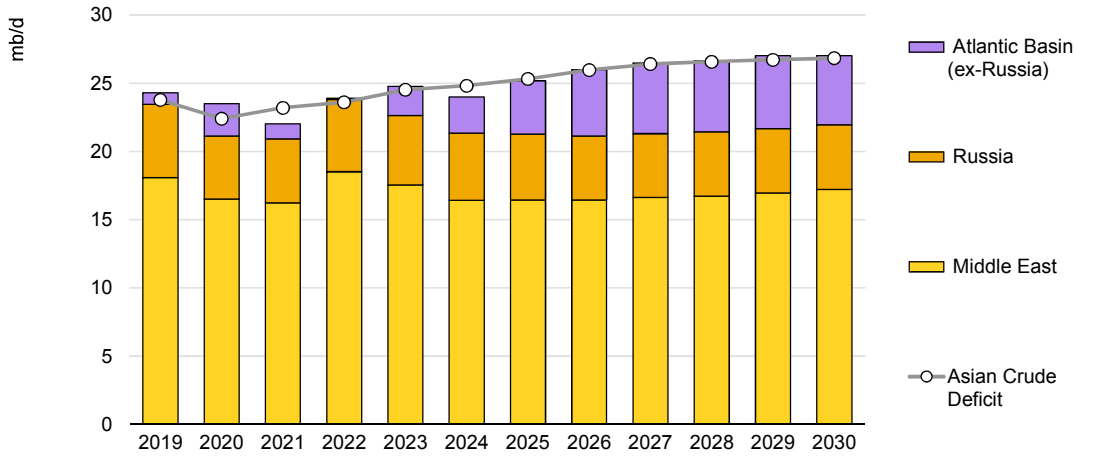
Refiners will need to progressively modify their product output to meet divergent trends for distillates as gasoline demand falls amid an increase in the market share of electric vehicles while jet fuel consumption rises. In addition, non-refined fuels such as NGLs and biofuels further undermine demand for refined product supplies and the need for additional refining capacity. Non-refined fuel products are set to capture more than 75% of projected demand growth over the 2023-2030 period.

This significant rise in non-refinery product supplies will add pressure on operating rates and refinery profitability, especially in mature demand centres. That raises the prospect of further capacity closures by the end of the decade. Capacity growth will remain concentrated in Asia, most notably in China and India, but post-2027 there are signs of expansions slowing.

Global oil trade will continue its eastward shift

Global oil trade will continue to be dictated by Asia's growing structural shortfall in crude and product supply and the expanding surplus of crude, NGLs and products in the Atlantic Basin. Rising non-OPEC+ crude supply, in tandem with sanctions on Russian crude exports and OPEC+ voluntary cuts, will push higher volumes from the Atlantic Basin to East of Suez over the outlook period.

Net crude oil exports versus Asian import requirement, 2019-2030



The loss of medium sour crudes from the Middle East amid OPEC+ cuts is partially offset by rising supplies from Brazil, Guyana and Canada. Asian markets have been opened in earnest to Canadian crude through the expanded Trans-Mountain pipeline to the Pacific Coast. Light sweet US crude oil will increasingly move to Europe and Africa as well as to India and other Asian refiners.

As the dominant centre of oil product demand growth, Asia will attract a greater share of product supply from the broader region, notably from the Middle East. Supplies from Russia, which are subject to sanctions in much of the Atlantic Basin, will continue to head eastward, although Africa and Latin America may also boost imports over time. Europe's shortfall in diesel and jet fuel supply, plus North America's need for jet fuel imports, will focus global competition most keenly in the middle distillate markets.

Demand

Global summary

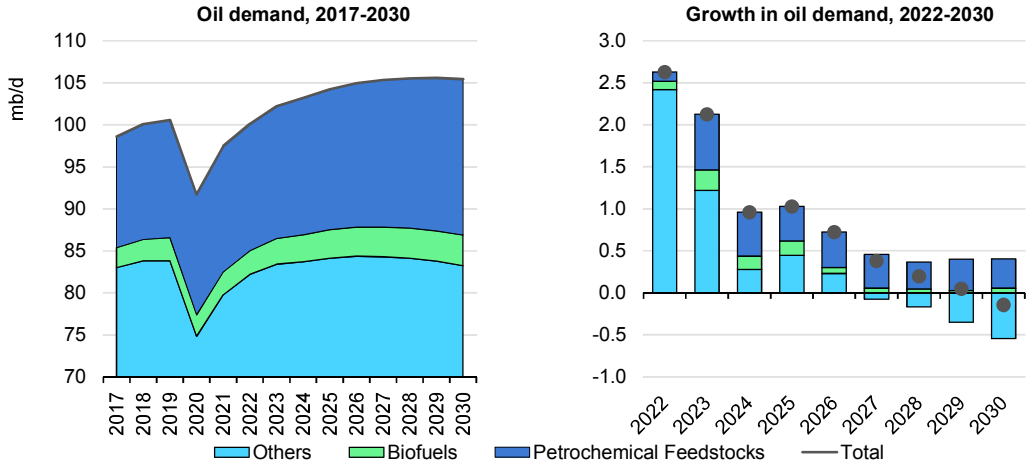
World oil demand on course to plateau by 2030

Oil demand growth will slow progressively over the rest of the decade. The post-pandemic rebound has faded, macroeconomic drivers remain weak and the accelerating deployment of clean energy technologies weighs heavily on key sectors and regions. Growth decelerates from 2.1 mb/d in 2023, with demand plateauing at 105.6 mb/d by 2029, and then shifting into a narrow contraction in the final year of our medium-term outlook. This slow erosion in global demand growth results in a net increase of 3.2 mb/d during the 2023-2030 forecast period.

Growth will be dominated by non-OECD Asian economies, especially India and China, as oil demand's decades-long pivot to emerging markets continues. Total non-OECD demand is forecast to rise 6.1 mb/d by 2030. While road transport use will ease as vehicle electrification gathers pace, significant potential remains for incremental jet fuel and petrochemical feedstock consumption. By contrast, the OECD, led by Europe and Americas, will post a sharp decline of 2.9 mb/d over the forecast period.

Shifting patterns of use, with most growth taking place in non-combustion applications like petrochemicals and a higher share of biofuels, mean that CO_2 emissions from oil use could peak as early as 2026.

World oil demand forecast to plateau this decade

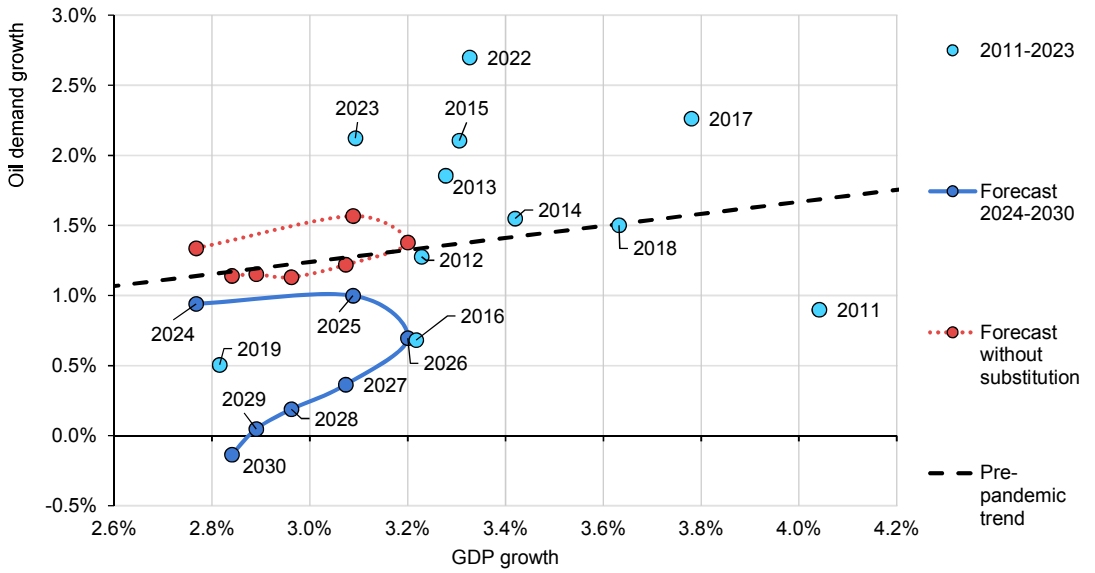


Oil demand growth to decouple from slower GDP expansion

The global economy has so far proved resilient during the unprecedented central bank interest rate hikes of 2022-2023 that coincided with the end to the post-Covid economic (and inflationary) rebound. These campaigns can be considered largely successful in that consumer inflation – although still above-target – has eased considerably, while economic activity remained mostly robust. Still, the long-term impact of this bout of monetary tightening is undetermined, especially in developed countries. Here, GDP growth remains subpar at 1-2% over the forecast period amid lacklustre manufacturing and trade, and tight credit conditions.

On a global level, this is partly counterbalanced by robust growth in non-OECD economies, averaging 4% in India and other Asian countries. While China's growth will also settle around this level, this marks a sharp deceleration from the country's overleveraged 1990-2010 boom years, with the protracted property slump weighing on economic sentiment. Consequently, global GDP growth is set to remain around half a percent below its 2010s pre-pandemic trend at an average annual rate of 3% over the forecasting period.

Growth in global oil demand and GDP, 2011-2030



Note: Excludes 2020 and 2021 due to Covid-19 distortions.

Now that the pandemic period (when public health restrictions drove changes in oil demand) has concluded, economic fundamentals are set to regain their traditional role as main drivers of oil demand, albeit only briefly. Global oil demand growth of about 1 mb/d in 2024 and 2025 is roughly in line with the level implied by GDP growth. However, this long-established correlation is set to break down in

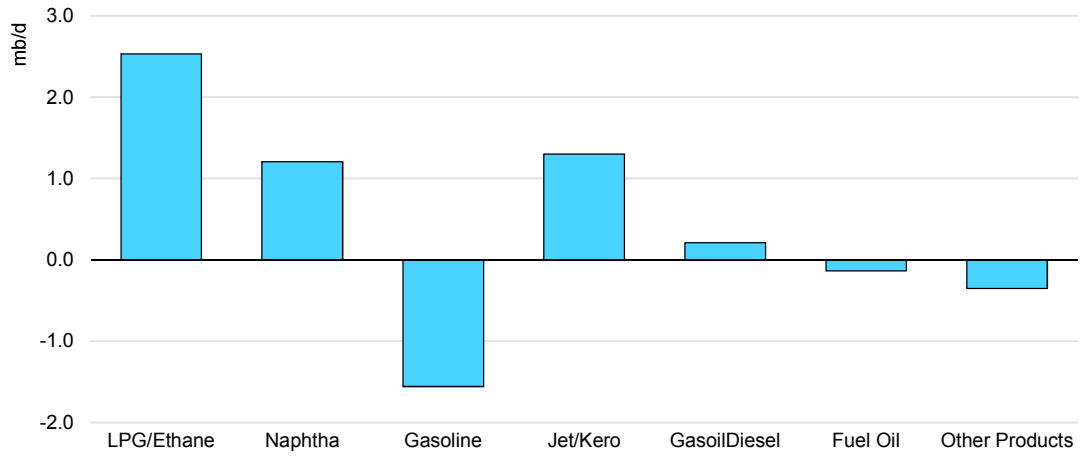
subsequent years. Oil consumption effectively decouples from GDP from 2026 onwards, as substitution away from oil in transport and power generation pushes oil demand growth towards zero, and eventually into decline.

Emerging Asia and petrochemicals dominate growth

The substitution effect is especially prominent in transport – the mainstay of oil demand – with road fuel demand already plateauing this year, and total transport close behind. EV sales are set to continue their stellar growth trajectory, resulting in significant fuel savings. This will displace 6 mb/d of gasoline and diesel demand by 2030, with a further contribution from improving fuel economies. Post-pandemic changes in consumer mobility behaviour contribute a further 1 mb/d in transport fuel savings as remote and hybrid work are now well established. The picture for public transport use is more mixed – city mass transit ridership has not yet regained 2019 levels in developed countries, partly because consumers shifted to car journeys. Conversely, in China public transport rebounded to pre-Covid levels in the immediate aftermath of the country's reopening, while highway passenger volumes remain at around half of 2019 levels, according to data reported by China's National Bureau of Statistics (NBS).

The displacement of oil used in electricity generation will also play a major role in shifting global demand to a plateau. In particular, Saudi Arabia has plans that would see about 1 mb/d cut from direct crude, fuel oil and gasoil use in power plants by 2030. A large increase in utilisation of domestic gas and renewable resources would enable this. Iraq is also expected to reduce oil burn in power plants, albeit on a smaller scale.

Growth in world oil demand by product, 2023-2030



Long-distance transport such as aviation and marine shipping, where demand is less amenable to direct substitution, will continue to post growth. However, here fuel efficiencies are increasingly slowing demand gains. Global flight activity regained pre-pandemic levels over the course of 2023, but at present jet/kerosene use remains about 5% below 2019 levels. Consumption is not expected to surpass pre-Covid levels until 2027, with healthy underlying demand for air travel counterbalanced by major strides in aircraft fuel efficiencies. Along the same line, efficiencies related to regulations by the International Maritime Organization (IMO) are set to gradually erode consumption of marine fuels.

World oil demand by product (mb/d), 2019-2030

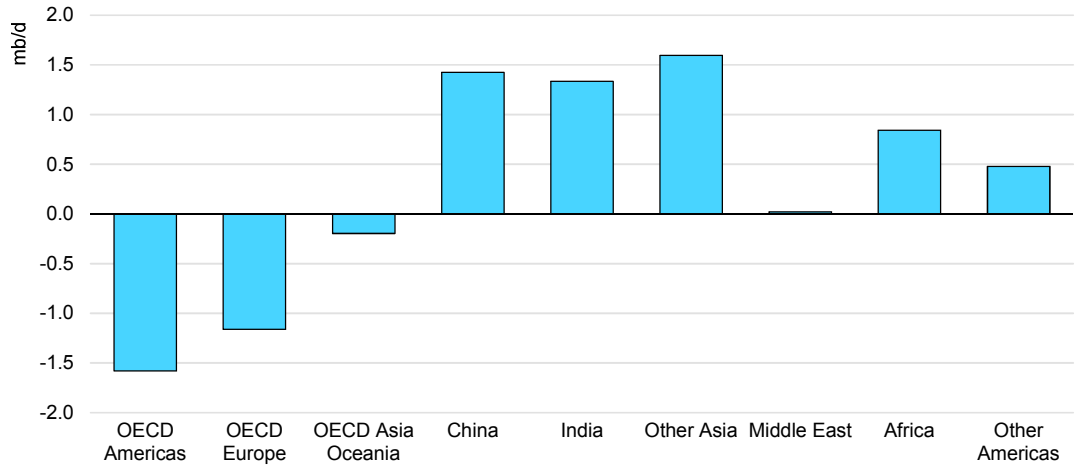
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2023-30 Growth Rate	2023-30 Growth
LPG/Ethane	13.1	13.3	13.7	14.1	14.6	15.0	15.4	15.8	16.2	16.5	16.8	17.1	2.3%	2.5
Naphtha	6.7	6.6	7.1	6.9	7.3	7.5	7.7	7.9	8.1	8.2	8.3	8.5	2.2%	1.2
Gasoline	26.9	23.7	25.7	26.3	27.0	27.2	27.2	27.0	26.7	26.4	26.0	25.4	-0.8%	-1.6
Jet/Kerosene	7.9	4.7	5.1	6.2	7.2	7.5	7.6	7.8	8.0	8.1	8.3	8.5	2.4%	1.3
Gasoil/Diesel	28.3	26.1	27.6	28.4	28.5	28.4	28.8	28.9	28.9	28.9	28.8	28.7	0.1%	0.2
Residual fuel oil	6.2	5.8	6.4	6.5	6.4	6.5	6.5	6.5	6.4	6.4	6.3	6.3	-0.3%	-0.1
Other products	11.5	11.6	11.8	11.8	11.3	11.0	11.1	11.1	11.1	11.1	11.1	11.0	-0.4%	-0.4
Total products	**100.6**	**91.7**	**97.5**	**100.1**	**102.2**	**103.2**	**104.2**	**105.0**	**105.3**	**105.5**	**105.6**	**105.4**	**0.4%**	**3.2**
Annual change	**0.5**	**-8.9**	**5.8**	**2.6**	**2.1**	**1.0**	**1.0**	**0.7**	**0.4**	**0.2**	**0.0**	**-0.1**		

In a marked contrast to the increasingly anaemic gains in transport fuels, petrochemical feedstocks will be the cornerstones of overall growth, as global polymer and synthetic fibre consumption steadily rises. Naphtha and LPG/ethane use will climb by a combined 3.7 mb/d over the forecast period. Four-fifths of this increment will be for deliveries to petrochemical plants, with growth in LPG demand for clean cooking and other domestic applications also playing a major role. Especially strong growth for LPG/ethane use – up by 2.5 mb/d between 2023 and 2030 – reflects substantial increases in new NGL supply, notably from the United States and major Middle Eastern producers.

China will continue to dominate growth in petrochemicals and gains of 1.4 mb/d in feedstock products will be close to the country's overall increase to 2030. On the other hand, rapid deployment of clean energy technologies will balance strong underlying mobility growth. Climbing EV sales and the impacts of infrastructure investments such as high-speed rail have blunted gasoline demand growth and China's use of the fuel is set to peak by 2025.

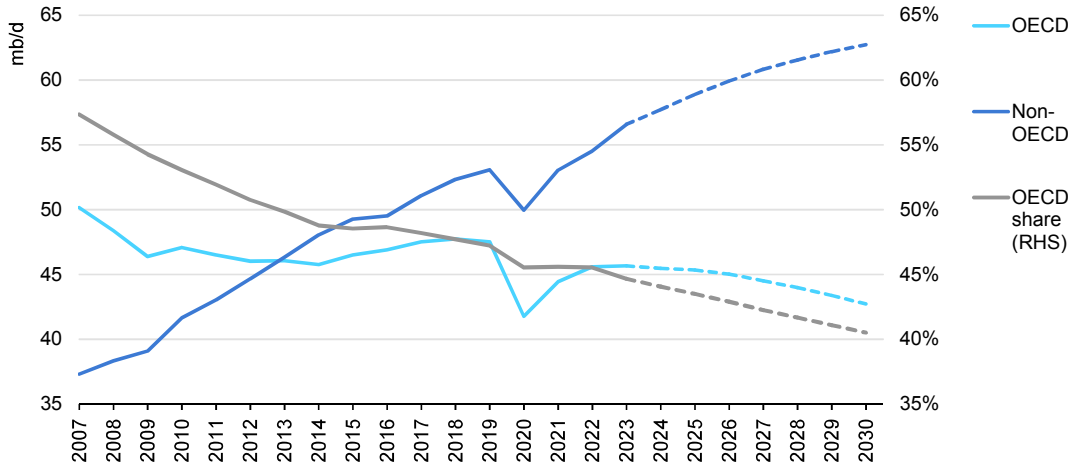
In India transport fuels will defy the global trend and increase significantly. Indian demand is expected to rise by 1.3 mb/d, with growth almost equal to that of its northern neighbour. Combined gains in all non-OECD Asian economies other than China and India will be even larger at 1.6 mb/d. Together, emerging Asian economies will be far and away the most important source of oil demand growth this decade.

Growth in oil demand by region, 2023-2030



By contrast, demand in OECD economies will continue its decades-long decline. In 2007, OECD demand was 50.2 mb/d and accounted for 57% of global oil use. By 2019 this had fallen to 47.5 mb/d (47% of the total) and in 2023 deliveries averaged 45.7 mb/d (45%). By 2030, OECD consumption will drop to 42.7 mb/d, 41% of the global total. Advanced economies have comparatively low GDP elasticities and can expect more limited economic growth. In general, they have also implemented ambitious clean energy policies. As a result, OECD countries will experience the largest declines in transport fuel demand and smaller rises in jet fuel demand. Increases in OECD petrochemical feedstock use will be largely confined to the United States.

OECD and non-OECD oil demand, 2007-2030



There are various risks to our demand forecast, of which assumptions about economic growth, oil prices and the pace of EV sales are key. Also, deviations for these factors are likely to be interdependent – for example, a faster pace of GDP growth is likely to be accompanied by higher oil prices and quicker EV adoption. Moreover, oil's flattish, plateauing demand profile post-2027 means that it would only take relatively minor changes in its underlying drivers to directionally shift oil's demand trajectory. For example, either a 0.3% quickening in global GDP growth, a USD 5/bbl annual decline in real oil prices or a 15% slowdown in the pace of global EV adoption would be sufficient for oil consumption to cross the narrow dividing line back from shrinkage to growth at the end of the decade. Conversely, opposite shifts of the same magnitude would accelerate oil demand's slide into contraction.

World oil demand by region (mb/d), 2019-2030

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2023-30 Growth Rate	2023-30 Growth
North America	24.9	21.9	23.7	24.3	24.6	24.5	24.6	24.4	24.0	23.7	23.4	23.0	-0.9%	-1.6
S&C America	6.7	5.7	6.4	6.7	6.9	6.9	7.0	7.1	7.1	7.2	7.3	7.3	1.0%	0.5
Europe	15.8	13.7	14.5	14.9	14.8	14.7	14.6	14.5	14.4	14.2	14.0	13.8	-1.0%	-1.0
Africa	4.2	3.9	4.2	4.3	4.3	4.4	4.5	4.7	4.8	4.9	5.0	5.2	2.6%	0.8
Middle East	8.8	8.1	8.4	8.9	9.0	9.0	9.2	9.3	9.3	9.3	9.1	9.0	0.0%	0.0
Eurasia	4.3	4.2	4.5	4.6	4.6	4.5	4.6	4.7	4.7	4.8	4.8	4.9	0.8%	0.3
Asia Pacific	35.9	34.2	35.8	36.3	38.1	39.1	39.8	40.4	41.0	41.5	41.9	42.3	1.5%	4.2
World	**100.6**	**91.7**	**97.5**	**100.1**	**102.2**	**103.2**	**104.2**	**105.0**	**105.3**	**105.5**	**105.6**	**105.4**	**0.4%**	**3.2**
Annual change	**0.5**	**-8.9**	**5.8**	**2.6**	**2.1**	**1.0**	**1.0**	**0.7**	**0.4**	**0.2**	**0.0**	**-0.1**		

Fundamentals

Green shoots emerging, but GDP growth remains below trend

The global economy is still in the process of adjusting to 2022's sea change, when major central banks launched their unprecedented battle against consumer inflation that reached 40-year highs. These measures have to date resulted in a cumulative 4-5% hike in interest rates for advanced economies. Whilst still inconclusive considering monetary policy's long and variable lags, these campaigns can so far be considered largely successful – inflation has retreated from its 9-10% peak to around 3% in most developed countries. Moreover, the decline has been achieved without driving the global economy into recession, amid notably firm labour markets and resilient consumer spending.

However, the final stage of this push has proved challenging, with inflation remaining stubbornly above its target of 2%, by around 1-2%. Until this "last mile" has been completed, the hoped-for soft landing for the global economy, accompanied by a return to monetary easing, may prove elusive. In this context, breakeven inflation rates derived from bond markets price annual US inflation at around 2.4% at a five-year horizon.

Regardless, higher interest rates and tighter credit mean that global economic growth is set to remain below its pre-pandemic trend for the foreseeable future. A slump in global trade weighs heavily on export-dependent China and the eurozone, with both pivoting towards structurally lower expansion. In this regard, the present shift towards deglobalisation does not augur well, as higher tariffs and other restrictions hamper trade and upend supply chains. Sino-US trade frictions, focused on technology, have become especially visible. In parallel, geopolitical risks have also become more pertinent, amid wars in Ukraine and the Middle East and an increasingly tense relationship between China and some neighbouring countries.

Government spending has been rampant since the pandemic, with knock-on effects on borrowing, interest rates and prices. As outlays for programmes such as social security, health care, the green economy and defence balloon, so do fiscal deficits and government debt burdens. The IMF has singled out budget deficits in the United States and China as posing significant financial stability risks for the global economy.

Real GDP growth assumptions

	2011-2019	2022	2023	2024	2025	2026-30
USA	2.4%	1.9%	2.5%	2.6%	1.9%	1.7%
Europe	2.0%	3.2%	1.3%	1.5%	2.0%	1.4%
Japan	0.9%	0.9%	1.9%	0.5%	0.9%	0.4%
China	7.3%	3.0%	5.2%	4.7%	4.1%	3.7%
India	6.8%	6.6%	7.7%	6.3%	7.4%	6.4%
Africa	3.7%	3.8%	2.5%	3.0%	3.9%	3.4%
OECD	2.1%	3.0%	1.7%	1.6%	1.9%	1.6%
Non-OECD	4.7%	3.6%	4.4%	4.1%	4.4%	3.9%
World	**3.4%**	**3.3%**	**3.2%**	**3.0%**	**3.3%**	**2.9%**

Source: Oxford Economics.

Global GDP growth is projected to average 3% over the 2024-2030 forecast period – about half a point lower than during the 2010s. Emerging economies will remain the main drivers by far, with average 2024-2030 non-OECD GDP growth more than double the OECD rate (4% versus 1.7%). By 2030, the non-OECD share of total global GDP will climb to 59%, from 55% in 2023.

GDP expansion in the United States will reach 2.6% in 2024 before subsiding, as higher-for-longer interest rates trickle down into the real economy and excess savings from the pandemic era are finally depleted. Growth will average 1.7% over the remainder of the forecast period. Soaring fiscal deficits (at 7.1% of GDP in 2025, according to the IMF, it is almost three times the 2% average for other advanced economies) will increasingly add to price pressures and act as a drag on economic growth.

The eurozone will gradually emerge from the economic stagnation that began in 2022, as lower interest rates and disinflation boost real incomes and private consumption. Germany will be a key engine of the modest recovery as a rebound in manufacturing lifts GDP growth to 1.3% in 2025 after two years of little growth and will remain around that level thereafter.

Japan's GDP will expand by 0.5% on average between 2024 and 2030 – the lowest of any major economy as an ageing population and a shrinking labour force weigh on productivity and depress potential growth.

China's economy continues to battle formidable headwinds such as a shrinking population, a protracted real estate slump now in its third year, industrial overcapacity, heavily indebted local governments and a nascent deflationary spiral amid soft domestic demand. Baseline trend growth will fall below 4% in 2026 and remain there to the end of our forecast period. Whilst reasonably firm in global terms, this is around half of the country's pre-pandemic trend.

India's GDP growth will remain by far the strongest among major economies, averaging 6.5% over the forecast period due to structural tailwinds such as benign demographics, a burgeoning middle class, and accelerating urbanisation and industrialisation. Oil demand will grow at a relatively fast rate as the energy intensity of the country's economy picks up from a low base.

Scenarios show price impact on oil demand

Assumptions about GDP growth and its impact on oil demand are a key component of our demand estimates. The average GDP elasticity of global oil demand is about 0.3 for OECD and 0.6 for non-OECD, reflecting the greater oil-intensity of emerging markets.

Additionally, expectations of future oil prices are paramount for demand estimates, with forecasts sensitive to both the absolute price level and sequential price changes over the outlook period. Oil prices used for the modelling are based on an average 2025 Brent crude price of about USD 79/bbl – which is held constant in real terms over the remainder of the forecasting period.

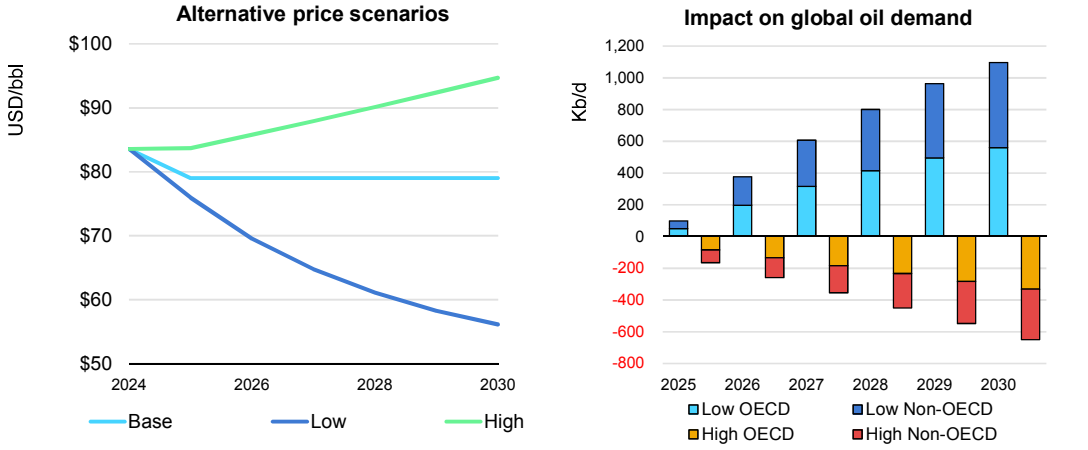
In addition to this base case, we have considered alternative high- and low-price scenarios:

High-price scenario: Assumes oil prices increase by 2.5% in real terms per annum, in line with their long-term historical pattern.

Low-price scenario: Estimates of future spot prices are based on the ICE Brent forward curve (slowing from USD 79/bbl in 2025 to USD 69/bbl in 2030). These prices are then discounted to real terms.

The high-price scenario would curtail 2030 global oil demand by 650 kb/d. However, this would not cause demand to peak earlier. Conversely, the low-price scenario would lift oil consumption by 1.1 mb/d at the end of the forecasting period, eliminating the current 2029 peak.

Alternative real oil price scenarios and impact on global oil demand, 2024-2030



Non-OECD price controls limit pass-through of market prices to retail

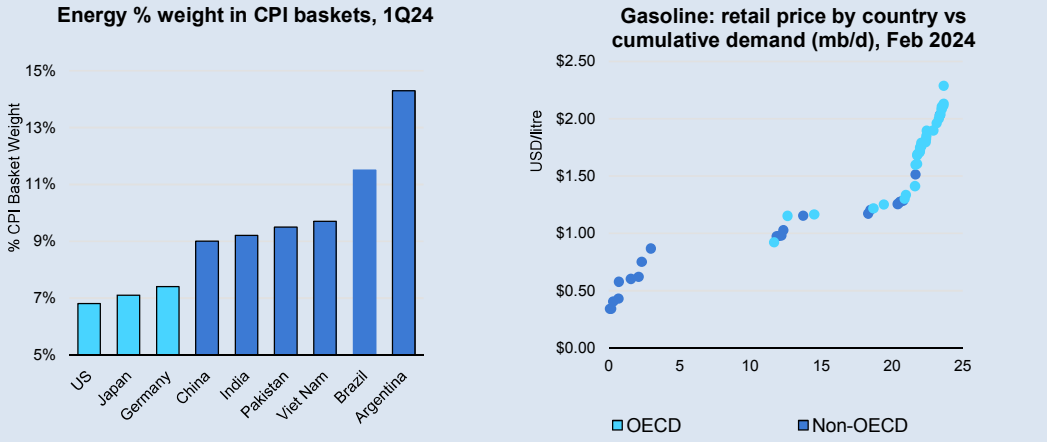
The impact of changes in oil prices on oil demand is roughly similar in OECD and non-OECD economies, despite non-OECD oil consumption being, at least in theory, more sensitive to changes in oil prices. Developing economies tend to be more oil intensive with their output gravitating towards agriculture and heavy industry. Also, energy ranks high in developing country Consumer Price Index (CPI) baskets, with poorer households spending a larger share of their income on basic goods. In theory, this results in higher oil demand price elasticities, as a price increase will be more keenly felt in developing countries.

However, these higher theoretical elasticities for lower-income countries are not at all clear in reality. This is because the market price mechanism whereby open market oil prices are converted into retail prices is less straightforward in poorer countries, being heavily mediated by their governments through price controls and subsidies.

These controls contribute to retail prices that are, as a rule, much lower in developing countries and closer to global wholesale market levels. In this regard, poorer countries contrast sharply with OECD countries where elevated fuel taxes inflate retail prices. More importantly, the prevalence of price controls in non-OECD economies results in a weak pass-through of market oil prices into pump prices. A

prime example is India, where retail prices have remained virtually unchanged since mid-2022. Retail pump prices in petrostates such as Saudi Arabia, Algeria, Kuwait and Qatar have also been fixed for years, according to data from *GlobalPetrolPrices*. Statistically, the disparity is reflected in the demand-weighted correlation between global gasoline prices and local currency retail pump prices. From January 2021 to February 2024, this correlation was only 58% for non-OECD countries, compared to 81% for OECD countries. The equivalent percentages for diesel were 64% and 84%, respectively.

Energy weight in CPI baskets; gasoline retail price by country vs demand



Source: IEA analysis based on data from Oxford Economics, GlobalPetrolPrices.

Road fuel demand approaching peak

EVs to curtail consumption of key fuels

Global electric car sales continue to display stellar growth. According to the IEA's Global Electric Vehicle Outlook 2024, sales could reach around 17 million in 2024, increasing from 14 million in 2023, with EVs accounting for nearly one in five cars sold globally. This ascent is set to persist, with total sales projected to reach 40 million in 2030, when almost one in two new cars will be an EV. This will displace around 6 mb/d of road fuels demand by the end of our forecast period.

The EV phenomenon remains primarily a Chinese one. In 2023 the majority of EV sales were in China (60%), with Europe (25%) and the United States (10%) accounting for the bulk of sales elsewhere. This dominance is set to continue – almost one in three cars on the roads in China by 2030 is expected to be electric, compared to almost one in five in both the United States and the European Union. Along the

same lines, more than half of all EVs sold globally were produced by Chinese carmakers, compared to only 10% for internal combustion engine (ICE) cars.

The environment for EVs has become more challenging in Western countries of late amid the partial phasing out of tax breaks and subsidies, with unsold cars piling up at car dealership lots. In contrast to China's mass-market adoption, EVs remain a comparatively niche product in developed economies, experiencing difficulty broadening their appeal beyond relatively prosperous, environmentally concerned urban motorists. High sticker prices, the lack of an adequate charging infrastructure and collapsing second-hand values act as deterrents to less affluent buyers. At the same time, trade frictions between China and the west are building due to cheap EVs from China rapidly gaining market share, crowding out higher-cost Western carmakers. This has prompted accusations that, backed by disproportionate government aid, China is exporting its structural overcapacity. The May 2024 decision by the Biden Administration to quadruple tariffs on Chinese EVs is a case in point. The European Union was also conducting an anti-dumping investigation into Chinese EVs at the time of writing.

Despite these headwinds, we expect EV growth to continue the acceleration of recent years, with oil demand savings advancing as more cars enter the fleet. This increase will be underpinned by ambitious zero-emissions targets, ongoing industrial policy support and steadily falling prices – parity with ICE cars could be attained by 2030 for most models outside of China. Still, it is worth emphasising that our forecast is highly dependent on EV ownership extending beyond early adopters and finding mass-market acceptance in Western economies.

While China remains the key driver of growth, sales will become less concentrated both geographically (with emerging market economies such as India more prominent) and in terms of fuels, with diesel gaining in relative importance. EVs are set to avoid an extra annual 1 mb/d of road fuels demand in 2029 and 2030, for a cumulative displacement of 6.1 mb/d, marking a sixfold increase versus 2023. Of this amount, 4.7 mb/d will be in gasoline and 1.4 mb/d in diesel. For the latter fuel, commercial and freight use will account for around 1 mb/d of savings, while in regional terms Europe will be responsible for the lion's share at 630 kb/d – outstripping the continent's gasoline savings of 530 kb/d.

Efficiency improvements continue to reduce fuel use

Efficiency improvements will assume increased importance over the forecast period in all transport segments, including road, maritime and aviation. Total efficiency gains are expected to reduce oil demand growth by 4.7 mb/d from 2023 to 2030, with the majority of savings in OECD road fuels amid stricter environmental regulations in Europe and the United States.

The European Union adopted new vehicle carbon dioxide (CO_2) standards in March 2023, requiring a 55% reduction in emissions of new cars by 2030 versus 2021. The new rule released by the United States Environmental Protection Agency (EPA) in March 2024 is projected to cut CO_2 emissions from light-duty vehicles by nearly 50% in 2032 from 2026, to 85 grammes of CO_2 per mile. Carmakers have been given a three-year extension to 2030 to reduce tailpipe emissions amid a "technology neutral" approach. Besides fully electric vehicles, compliance can be attained by producing a range of "cleaner" cars, including gas-powered cars, hybrid EVs, and plug-in hybrids.

Much of these efficiency gains are being offset by a shift towards larger conventional cars, which will support road fuel demand in the medium term. To a considerable extent, improvements in engine efficiency have enabled more widespread ownership of larger vehicles, as fuel cost savings increase affordability, in line with the Jevons Paradox. In some cases, carmakers also use larger bodies for hybrid vehicles, where additional equipment requires more space. This increase in size may also be visible within the EV segment. As a result of efficiency improvements and EVs crowding out ICE cars, road fuels, especially gasoline, would become more readily available and comparatively lower in cost. Price-elastic consumers, especially in emerging market countries, would be the main beneficiaries of a rebound effect on demand, partly offsetting direct global fuel savings due to efficiencies and greater EV use.

Behavioural pandemic-era mobility transformations persist

Four years after the Covid-19 pandemic brought unprecedented disruptions to everyday life, people's daily routines have overwhelmingly returned to normal. In parallel, oil demand growth has reverted to its former underlying behavioural drivers, with traditional economic factors replacing public health restrictions. A key exception in this regard is in corporate life, where mobility patterns have been transformed due to a persistent shift to remote and hybrid work.

After cratering during H1 2020, office attendance initially rebounded sharply as social distancing measures were relaxed. However, this recovery has stalled since 2022, with remote and hybrid work in developed economies stabilising at permanently higher levels. In 2023, full-time employees in America worked from home (WFH) 1.4 days per week on average according to the Global Survey of Working Arrangements – a fivefold increase versus 2019.

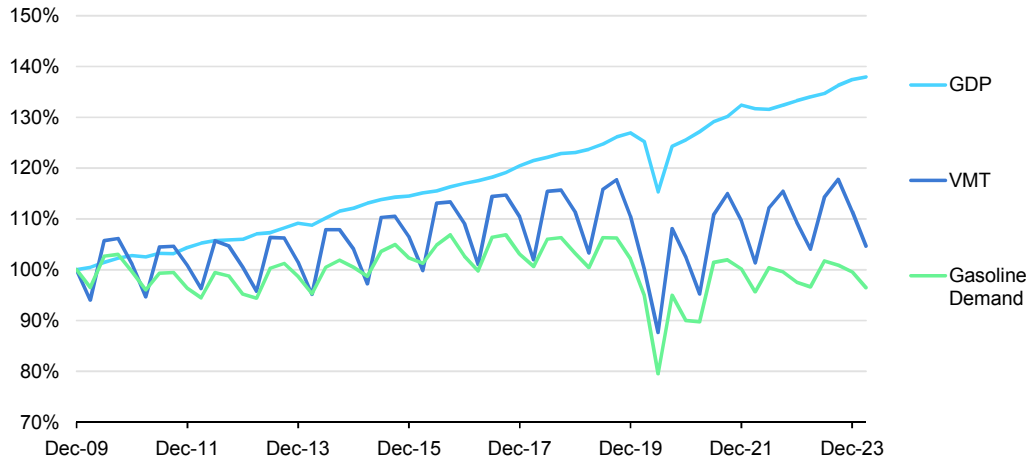
In this context, the United States is emblematic of a group of advanced economies, predominantly in the Anglosphere – for example, Canada (1.7 days) and the United Kingdom (1.5 days) – where WFH has effectively become part of the new normal. The custom has advanced less in other developed economies, with an average 0.8 days per week worked remotely in mainland European countries, and

0.7 days in Asia. Also, there are large differences within countries across age groups, incomes and industries. WFH is most common among higher-paid, higher-educated workers and concentrated in knowledge-intensive sectors such as finance and information technology, where work can be more easily performed remotely. These technologically adept employees also tend to be younger. Other factors contribute to the appeal of WFH – US workers tend to have longer and more expensive commutes as well as bigger homes, incentivising remote work.

WFH's future, beyond the stabilisation of recent years, is uncertain. Its impact on productivity is still hotly debated, with some employers tightening their rules and demanding that remote staff return to their desks at least some of the time. A recent slowdown in hiring in finance and tech may strengthen their hand. Conversely, lawmakers in several nations have passed legislation promoting the right to flexible work arrangements or proposed doing so. Also, technological innovation in video conferencing may enhance the quality and prevalence of virtual meetings.

In the United States, WFH has accelerated the long-term decoupling between road fuel demand and the size of the economy. Gasoline consumption has been lagging key macroeconomic indicators for decades, as driving mobility gradually moved towards saturation. In 2023, total vehicle miles travelled (VMT) were almost the same as in 2019, although GDP had increased by 8%. Widening the gap further is that fuel demand has also lagged mobility – US gasoline deliveries were 4% lower over this period, as more efficient car engines and an expanding EV fleet curtailed demand.

US GDP, Vehicle Miles Travelled, gasoline demand, December 2019-March 2024

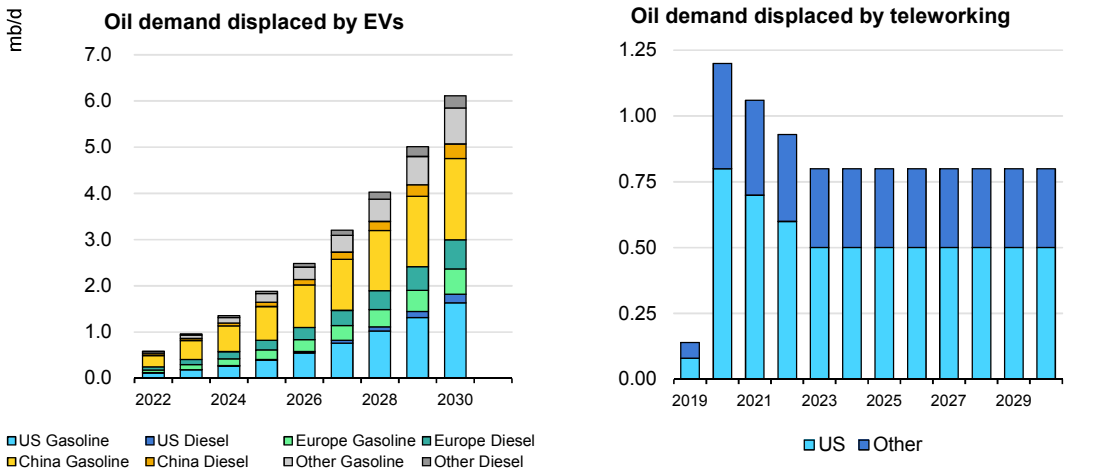


Sources: IEA analysis based on data from US Bureau of Economic Analysis, Federal Highway Administration.

Partially counteracting WFH's negative effects on gasoline demand since 2020 was a switch from public transport to car journeys, as health risk-averse travellers avoided public transit and quieter roads in some regions made driving easier. While mass transit ridership rebounded strongly in 2022 and 2023, passenger volumes in most developed economies remain short of 2019 levels. Public transport use has fallen in major US and UK cities due to remote working. According to the Metropolitan Transport Authority, ridership on the New York subway averaged 68% of pre-pandemic traffic in 2023. Data from Transport for London (TfL) paint a similar picture, with bus and metro journeys at 84% of pre-Covid levels by October. Along the same lines, the German Federal Statistical Office reported 8% fewer bus and rail passenger journeys in 2023 than in 2019.

The key contrast with this lacklustre recovery has been in China, where mobility made a swift and complete comeback in the immediate aftermath of the country's reopening. Passenger volumes for rail and urban traffic had returned to pre-Covid level by mid-2023, as had domestic flight activity. Similarly, holiday travel rebounded to around 20% above 2019 levels during 2023's major festivals. The chief exception in this regard is long-distance car travel, amid a cross-modal shift to rail and air traffic – highway passenger volumes are around half of 2019 levels, according to NBS data.

Oil demand displacement by EVs and by teleworking



We see the cumulative impact of post-Covid remote working behavioural changes reflected in a reduction of global road fuels demand of 800 kb/d from 2023 to 2030. This reduction is highly concentrated in the United States, where an estimated 500 kb/d of fuel use is being avoided compared with 2019.

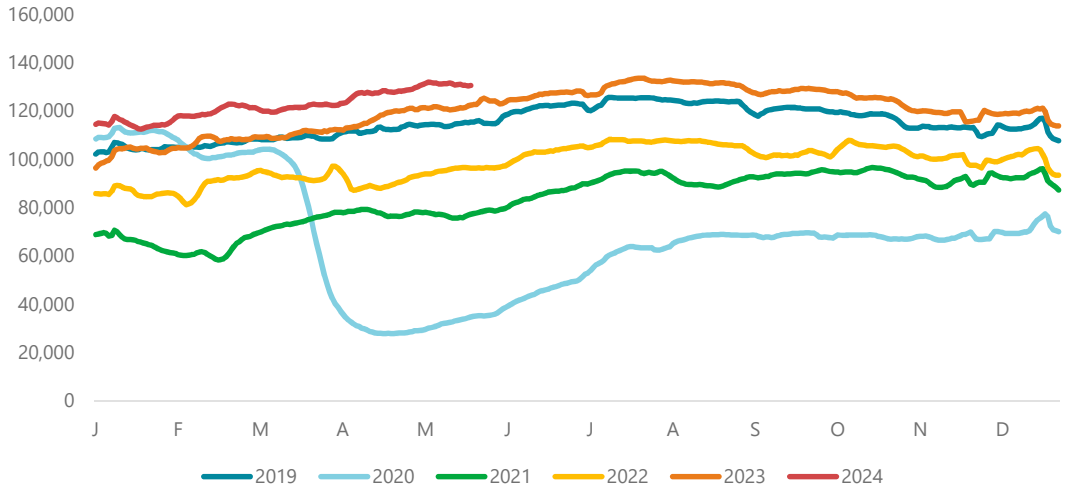
Efficiencies slow jet and marine fuel growth

Jet fuel will only surpass 2019 levels by 2027

The pandemic wreaked large-scale devastation on global air travel, rendering jet/kerosene by far the most affected among the major oil products, with demand collapsing by 41% to 4.7 mb/d during 2020. In subsequent years, as lockdown restrictions eased and use rebounded, the fuel became the main driver of oil demand growth, at 1 mb/d each in 2022 and 2023. With the post-pandemic rebound now having run its course, growth is set to recalibrate to a sharply slower 300 kb/d in 2024. This deceleration will continue in 2025-2030, averaging 170 kb/d annually for a cumulative 850 kb/d gain, as increasing passenger demand for air travel is counterbalanced by major strides in aircraft design. As a result, global jet fuel demand will not surpass 2019 levels until 2027.

The global recovery to pre-pandemic air travel activity became complete during 2023 by measures such as number of flights, passengers and miles flown. Passenger numbers regained the 2019 level somewhat earlier than flight movements, as airlines flew larger, fuller planes on high-traffic routes. February 2024 marked the first occurrence of a full recovery in both the domestic (+13.7% versus 2019) and international (+0.9% versus 2019) segments, measured in revenue-passenger kilometres (the number of paying passengers multiplied by the total distance travelled), according to International Air Transport Association (IATA) data.

Global number of commercial flights (daily), 2019-2024



Source: IEA analysis based on data from FlightRadar, Bloomberg.

Nonetheless, jet fuel demand has failed to keep pace with air travel, making it the only fuel where consumption has not yet regained pre-pandemic levels. Global jet fuel demand in 2024 is only 95% of 2019 levels, despite a widespread recovery in flight numbers. Among the major economies, China's rebound to 101% stands out, contrasting with demand lagging elsewhere – 97% in the United States, 96% in OECD Europe and 93% in OECD Asia.

Although operational improvements and optimisation in flight planning have contributed to this divergence, the gap arises chiefly due to the advances that have been made in aircraft fuel efficiencies since 2019. Flagship new-generation models such as the Airbus320neo (introduced in 2016) and the Boeing 737 MAX (2017) burn up to 30% less fuel than their predecessors. The replacement of older models in fleets has been swift – thus far, deliveries of the A320neo and MAX families have been 3 279 and 1 486, respectively, with years-long backlogs for planes. Fuel savings have followed and are set to continue, with Airbus progressing towards an upgrade to the current A320neo that would boost fuel efficiency by a further 20% to 25%.

These fuel economies will partially counteract solid underlying global growth in demand for air travel. IATA forecasts this to double by 2040, increasing at an annual rate of 3.4% between 2019-2040. Geographically, growth rates range between 2.1% for Europe and the United States to 4.6% in the Asia Pacific region, with the latter making up half of global passenger demand in 2040. Structurally lower GDP growth will constrain demand increases in advanced economies, as will limited capacity at airports and heightened concerns about the climate impact of air travel. As a result, the Asia Pacific region will account for two-thirds of 2023-2030 demand gains, as both higher wealth and disposable incomes drive changes in consumer behaviour, boosting aspirations for perceived luxuries such as tourism and air travel.

Slowing trade and IMO efficiencies erode marine fuel growth

Demand for marine fuels (comprising marine bunkers and domestic navigation) is expected to hover around 5.3 mb/d throughout the forecast period, as below-par growth in trade and seaborne freight combines with tighter standards imposed by the IMO to reduce the carbon intensity of shipping.

The United Nations Conference on Trade and Development (UNCTAD) forecasts maritime trade to expand at an average annual growth rate of 2.1% by 2028 – below the 3% historical average of the past three decades. In addition to below-trend GDP growth, the expansion of tariffs and other restrictions act as a headwind to global trade, as do higher ocean freight rates.

At the same time, regulatory targets for shipping carbonisation are accelerating. The 2023 IMO Strategy on Reduction of GHG Emissions from Ships updated the

initial strategy adopted in 2018 with enhanced net zero targets, calling for a 20% to 30% reduction in greenhouse gas emissions by 2030.

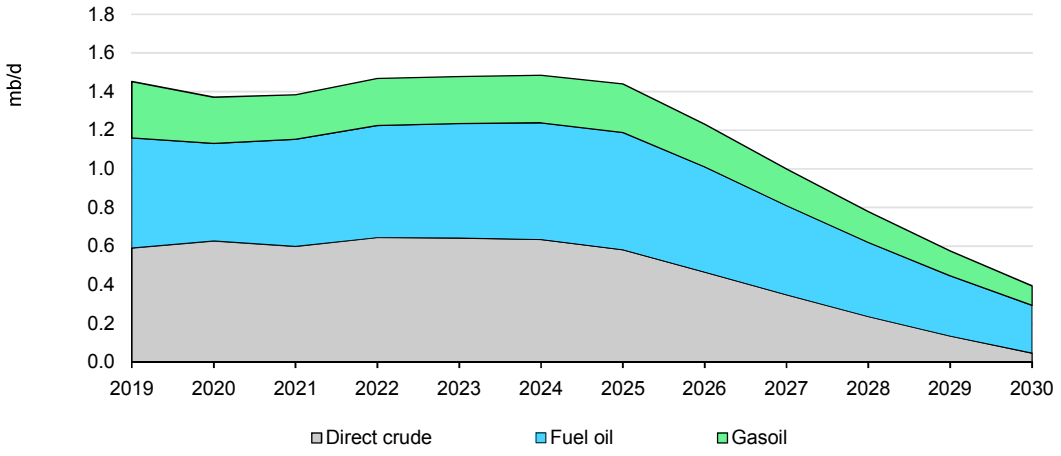
The efficiency standards mandated by the IMO will counterbalance underlying trade growth of around 600 kb/d by 2030, resulting in a flattish demand profile for marine fuels over the forecast horizon.

Oil displacement in power generation

Oil burn set to plummet as Saudi ambitions come into focus

Ambitious plans by Saudi Arabia and Iraq to cut the use of oil in power generation are projected to make a momentous contribution to taming global oil demand growth. Middle Eastern countries are estimated to have used 1.5 mb/d of oil to produce electricity in 2023, about 40% of the global total and one-sixth of overall regional oil consumption. Fuel oil and direct crude burning each accounted for around 600 kb/d. Much of this is concentrated in Saudi Arabia and Iraq, where it plays a crucial role in managing peak summer electricity demand. We estimate that this substitution in power sources, focused on new gas and solar capacity, will reduce the amount of oil used in generation by 1.1 mb/d by 2030.

Impact of Middle East substitution of oil use in power generation, 2019-2030



Saudi Arabia is currently the world's largest consumer of oil for power generation but has announced plans that would end this dependency by 2030 in favour of natural gas and renewables. The Kingdom's Liquid Fuel Displacement Program would eliminate approximately 1 mb/d of crude oil, fuel oil and gasoil use through a combination of incremental domestic gas resources, notably from the Jafurah project, and an enormous increase in renewables generation. Based on these

plans, we estimate that direct crude burn will be reduced by 500 kb/d from 2023 to 2030, while fuel oil and gasoil use falls by 350 kb/d and 150 kb/d, respectively. The country has set a target of 50% of electricity to come from renewable sources by 2030, with a goal of 130 GW of renewables capacity.

Despite substantial growth in other sectors, Saudi Arabia's total domestic consumption is forecast to fall by 530 kb/d (14%) between 2023 and 2030. Only the United States will see a steeper decline in absolute terms between now and the end of the decade. These two countries, the world's top oil producers, will post the largest drops in demand.

Iraq's electricity grid has come under strain in recent years. Power plants have struggled to meet surging peak summer demand, even with imports from neighbouring countries. Currently, the country receives both power and gas from other nations, most notably Iran. An agreement where Iraq receive Iranian gas was extended for five years in March 2024, meaning that incremental domestic generation and new imports from other sources can be used to meet the gap with demand and reduce oil burn. The country burns on average approximately 150 kb/d of crude and around 360 kb/d of fuel oil but started curbing crude used in power generation in May.

This year Iraq plans to reduce crude oil burn as part of its obligation to offset overproduction of its OPEC+ target in Q1 2024. In March, Iraq submitted a compensation plan to make up its excess output, in which it agreed to cut production by reducing crude oil use in power generation from May-December 2024. Iraq will gradually reduce crude burn over the nine-month period, and will average around 45 kb/d, which will cap its crude burn at 75 kb/d.

In the medium term, domestic resources coupled with increased imports of gas and electricity should allow for further replacement of crude and fuel oil used in power generation. With support from the United States, Iraq aims to capture associated gas, which is currently being flared from oil fields, for power generation. Additionally, TotalEnergies is working on projects to develop gas and solar resources within the country. We estimate that these will result in a 120 kb/d reduction in direct crude burn by 2030.

These changes would be sufficient to see both Saudi and Iraqi oil demand peak in the middle of this decade, comfortably ahead of the world as a whole. In the process, substantial additional crude volumes would become available for export. These changes also will materially loosen global fuel oil balances at a time when refiners are set to grapple with ever-lighter crude slates.

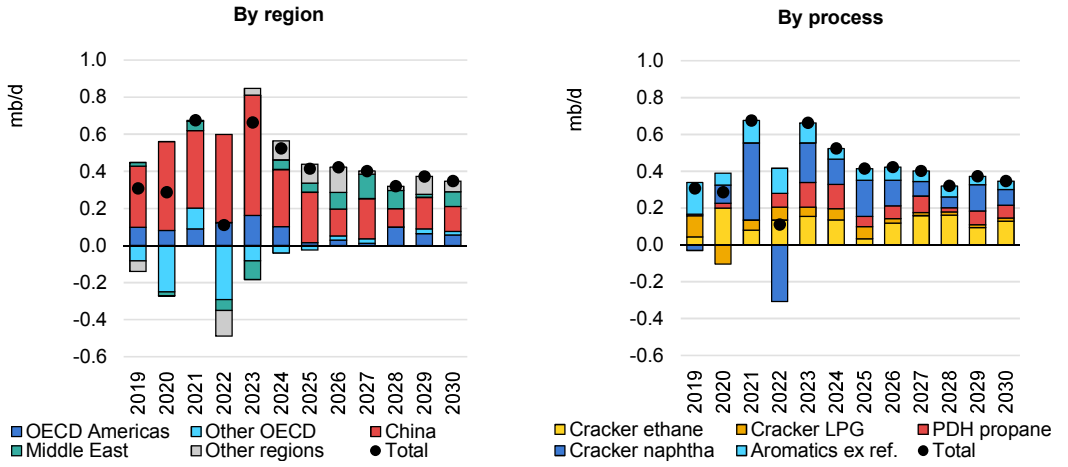
Petrochemicals lead growth

Use of feedstock products will expand throughout the decade

Rising demand for petrochemical feedstocks will be the largest force for growth in oil demand during the medium-term. Projected 2023-2030 gains of 2.8 mb/d would be equivalent to about three-quarters of the overall increase in oil consumption and will be dominated by ethane (+820 kb/d) and LPG (+730 kb/d) as the industry digests burgeoning global NGL volumes.

China will remain far and away the most important region for higher petrochemical activity. In the wake of an unprecedented wave of plant construction, feedstock use is forecast to go up by 1.3 mb/d between 2023 and 2030, having risen by 2.6 mb/d from 2017 to 2023. This surge reflects a drive towards self-reliance in polymers by the world's largest importer of petrochemical products, boosting both imports and domestic production of ethane, LPG and naphtha.

Petrochemical feedstock demand growth, 2019-2030



In contrast to other segments of oil demand, overall petrochemical activity continued to expand during the pandemic years as the interruption to demand from manufacturing, textiles and construction was more than offset by increased plastic use in packaging, and medical and protective equipment. Indeed, overall demand for ethylene – the most important petrochemical building-block molecule – may have fallen slightly in 2022 as this exceptional demand subsided.

Over the rest of this decade, this remarkably steady growth is set to continue. We expect demand for light olefins (ethylene and propylene) to increase by about 2.8% per year from 2023 to 2030. Longstanding trends like the growth of cities

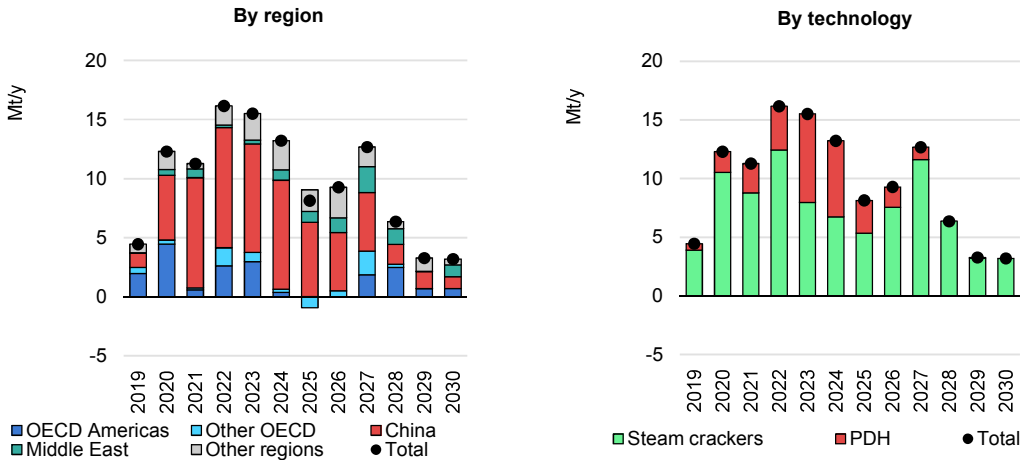
and average incomes, especially in emerging markets, as well as the increasing prevalence of online shopping and delivery services, boost packaging demand. In addition, some important manufacturing growth areas, including clean energy technologies like EVs and solar panels, are relatively polymer intensive. Factors like these mean that plastic consumption rises most sharply as an economy enters middle-income status and, as with overall oil use, gains in polymer end-use will be highly concentrated in non-OECD nations.

While the global rate of growth in petrochemical activity has been relatively stable over recent years, this disguises major shifts in where the production, and associated feedstock consumption, is taking place. These changes result from patterns of investment and feedstock availability.

Chinese and US petrochemical market shares expanding

A major shift in activity took place over the pandemic years, with China rapidly cementing its role as the world's foremost centre of polymer production. This has had major implications for oil demand, with combined naphtha, LPG and ethane increasing by 1.7 mb/d from 2019 to 2023. Over the same period, total oil demand went up by the same amount globally.

Light olefins capacity additions, 2019-2030



Between 2019 and the end of 2024 Chinese producers will have completed construction of ethylene and propylene producing plants roughly equivalent to the combined existing capacity in Europe, Japan and Korea. We expect them to add half as much again before the end of the decade. These new facilities are overwhelmingly a combination of world-scale naphtha crackers closely integrated to new refineries as well as LPG/ethane crackers and propane dehydrogenation

Tables

Table 1
WORLD OIL SUPPLY AND DEMAND
(million barrels per day)

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
OECD DEMAND										
Americas	24.0	24.7	25.0	24.9	25.0	24.8	24.4	24.1	23.8	23.4
Europe	13.1	13.6	13.4	13.3	13.2	13.1	12.9	12.7	12.5	12.3
Asia Oceania	7.3	7.3	7.2	7.3	7.2	7.2	7.2	7.1	7.1	7.0
Total OECD	**44.4**	**45.6**	**45.7**	**45.5**	**45.3**	**45.0**	**44.5**	**44.0**	**43.4**	**42.7**
NON-OECD DEMAND										
FSU	4.9	4.9	4.9	4.9	4.9	5.0	5.1	5.2	5.2	5.3
Europe	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9
China	15.1	15.1	16.6	17.1	17.5	17.7	17.9	18.0	18.1	18.1
Other Asia	13.6	14.1	14.5	14.9	15.3	15.8	16.2	16.6	17.0	17.4
Latin America	6.1	6.3	6.5	6.5	6.6	6.7	6.7	6.8	6.9	7.0
Middle East	8.4	8.9	9.0	9.0	9.2	9.3	9.3	9.3	9.1	9.0
Africa	4.2	4.3	4.3	4.4	4.5	4.7	4.8	4.9	5.0	5.2
Total Non-OECD	**53.0**	**54.5**	**56.6**	**57.7**	**58.9**	**59.9**	**60.8**	**61.6**	**62.2**	**62.7**
Total Demand[1]	**97.5**	**100.1**	**102.2**	**103.2**	**104.2**	**105.0**	**105.3**	**105.5**	**105.6**	**105.4**
OECD SUPPLY										
Americas	24.3	25.7	27.4	28.1	28.8	29.1	29.3	29.4	29.4	29.5
Europe	3.4	3.2	3.2	3.2	3.3	3.2	3.1	3.0	2.9	2.8
Asia Oceania	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3
Total OECD[2]	**28.2**	**29.4**	**31.1**	**31.8**	**32.5**	**32.7**	**32.7**	**32.8**	**32.7**	**32.6**
NON-OECD SUPPLY										
FSU	13.8	13.9	13.8	13.5	13.7	13.9	13.8	13.8	13.8	13.8
Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	4.1	4.2	4.3	4.4	4.5	4.4	4.3	4.2	4.1	4.0
Other Asia	2.9	2.7	2.7	2.6	2.5	2.4	2.3	2.2	2.1	2.0
Latin America	5.3	5.6	6.2	6.5	6.9	7.5	7.7	8.1	8.2	7.8
Middle East	3.1	3.2	3.1	3.1	3.2	3.2	3.3	3.5	3.6	3.6
Africa	2.5	2.5	2.5	2.5	2.7	2.7	2.8	2.8	2.7	2.7
Total Non-OECD[2]	**31.7**	**32.3**	**32.7**	**32.8**	**33.5**	**34.2**	**34.3**	**34.7**	**34.6**	**34.0**
Processing gains[3]	2.2	2.3	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.5
Global Biofuels	2.8	2.9	3.1	3.3	3.4	3.5	3.5	3.6	3.7	3.7
Total Non-OPEC	**65.0**	**66.8**	**69.2**	**70.2**	**71.9**	**72.8**	**73.0**	**73.5**	**73.5**	**72.8**
OPEC[4]										
Crude	25.3	27.9	27.4							
NGLs	5.3	5.4	5.5	5.6	5.7	5.9	6.1	6.3	6.5	6.7
Total OPEC	**30.6**	**33.3**	**33.0**							
Total Supply	**95.6**	**100.2**	**102.2**							
Memo items:										
Call on OPEC crude + Stock ch.[5]	27.2	27.8	27.5	27.4	26.7	26.3	26.2	25.7	25.6	25.9

1 Measured as deliveries from refineries and primary stocks, comprises inland deliveries, international marine bunkers, refinery fuel, crude for direct burning, oil from non-conventional sources and other sources of supply. Includes biofuels.
2 Comprises crude oil, condensates, NGLs, oil from non-conventional sources and other sources of supply.
3 Net volumetric gains and losses in the refining process and marine transportation losses.
4 OPEC includes current members throughout the time series.
5 Total demand minus total non-OPEC supply and OPEC NGLs.

For the purpose of this and the following tables :
- OECD comprises of Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan,Korea, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, Norway, New Zealand, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, Republic of Türkiye, UK, US.
- OPEC comprises of Algeria, Congo, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Neutral Zone, Nigeria, Saudi Arabia, UAE, Venezuela.

Table 1a
WORLD OIL SUPPLY AND DEMAND: CHANGES FROM OIL 2023
(million barrels per day)

	2022	2023	2024	2025	2026	2027	2028
OECD DEMAND							
Americas	-0.3	-0.2	0.1	0.3	0.4	0.3	0.2
Europe	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Asia Oceania	-0.1	-0.3	-0.3	-0.4	-0.3	-0.4	-0.4
Total OECD	**-0.4**	**-0.6**	**-0.4**	**-0.1**	**0.0**	**-0.2**	**-0.3**
NON-OECD DEMAND							
FSU	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Europe	0.0	0.0	0.0	0.0	0.0	0.0	0.0
China	0.5	0.5	0.5	0.4	0.3	0.4	0.4
Other Asia	0.2	0.1	0.1	0.0	0.0	0.1	0.1
Latin America	0.1	0.2	0.1	0.0	0.0	0.0	0.0
Middle East	-0.1	-0.3	-0.3	-0.2	-0.4	-0.4	-0.5
Africa*	0.1	0.0	0.0	0.0	0.1	0.1	0.1
Total Non-OECD	**0.7**	**0.6**	**0.5**	**0.3**	**0.1**	**0.2**	**0.1**
Total Demand	**0.3**	**0.0**	**0.1**	**0.1**	**0.1**	**0.0**	**-0.2**
OECD SUPPLY							
Americas	0.1	0.5	0.7	1.1	1.2	1.2	1.2
Europe	0.0	0.0	-0.1	0.1	0.1	0.1	0.3
Asia Oceania	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total OECD	**0.1**	**0.5**	**0.6**	**1.2**	**1.2**	**1.3**	**1.6**
NON-OECD SUPPLY							
FSU	0.0	0.2	-0.1	0.0	0.2	0.3	0.4
Europe	0.0	0.0	0.0	0.0	0.0	0.0	0.0
China	0.0	0.0	0.1	0.2	0.2	0.2	0.2
Other Asia	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Latin America	0.0	0.1	0.1	0.1	0.5	0.4	0.6
Middle East	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0
Africa	0.1	0.1	0.1	0.2	0.1	0.2	0.2
Total Non-OECD	**0.1**	**0.4**	**0.2**	**0.5**	**0.9**	**1.0**	**1.4**
Processing Gains	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
Global Biofuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Non-OPEC	**0.1**	**0.9**	**0.8**	**1.6**	**2.2**	**2.3**	**3.0**
OPEC							
Crude*	0.0						
NGLs	0.1	0.2	0.2	0.2	0.4	0.6	0.7
Total OPEC	**0.2**						
Total Supply	**0.4**						
Memo items:							
Call on OPEC crude + Stock ch.	0.0	-1.1	-0.9	-1.7	-2.4	-2.9	-3.8

*Angola removed from OPEC and added to non-OPEC+ Africa in Oil 2024. These changes affect the OPEC crude and Africa rows of this table

Table 1b
WORLD OIL SUPPLY AND DEMAND - WEO Regions
(million barrels per day)

	2022	2023	2024	2025	2026	2027	2028	2029	2030
DEMAND									
North America	24.3	24.6	24.5	24.6	24.4	24.0	23.7	23.4	23.0
Central and South America	6.7	6.9	6.9	7.0	7.1	7.1	7.2	7.3	7.3
Europe	14.3	14.2	14.1	14.0	13.9	13.8	13.6	13.4	13.2
Africa	4.3	4.3	4.4	4.5	4.7	4.8	4.9	5.0	5.2
Middle East	8.9	9.0	9.0	9.2	9.3	9.3	9.3	9.1	9.0
Eurasia	4.9	4.9	4.9	4.9	5.0	5.1	5.2	5.2	5.3
Asia Pacific	36.6	38.3	39.3	40.0	40.7	41.2	41.7	42.1	42.5
Total Demand[1]	**100.1**	**102.2**	**103.2**	**104.2**	**105.0**	**105.3**	**105.5**	**105.6**	**105.4**
NON-OPEC SUPPLY									
North America	25.7	27.4	28.1	28.8	29.1	29.3	29.4	29.4	29.5
Central and South America	5.7	6.2	6.5	6.9	7.5	7.7	8.1	8.2	7.8
Europe	3.3	3.3	3.3	3.4	3.3	3.1	3.1	3.0	2.9
Africa	2.5	2.5	2.5	2.7	2.7	2.8	2.8	2.7	2.7
Middle East	3.2	3.1	3.1	3.2	3.2	3.3	3.5	3.6	3.6
Eurasia	13.9	13.8	13.5	13.7	13.9	13.8	13.8	13.8	13.8
Asia Pacific	7.4	7.4	7.5	7.4	7.2	7.0	6.8	6.6	6.3
Total Non-OPEC	**61.6**	**63.8**	**64.6**	**66.1**	**66.9**	**67.0**	**67.5**	**67.3**	**66.6**
Processing gains[3]	2.3	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.5
Global Biofuels	2.9	3.1	3.3	3.4	3.5	3.5	3.6	3.7	3.7
Total Non-OPEC Supply	**66.8**	**69.2**	**70.2**	**71.9**	**72.8**	**73.0**	**73.5**	**73.5**	**72.8**
OPEC[4]									
Crude	27.9	27.4							
NGLs	5.4	5.5	5.6	5.7	5.9	6.1	6.3	6.5	6.7
Total OPEC	**33.3**	**33.0**							
Total Supply	**100.2**	**102.2**							
Memo items:									
Call on OPEC crude + Stock ch.[5]	27.8	27.5	27.4	26.7	26.3	26.2	25.7	25.6	25.9

1 Measured as deliveries from refineries and primary stocks, comprises inland deliveries, international marine bunkers, refinery fuel, crude for direct burning, oil from non-conventional sources and other sources of supply. Includes biofuels.
2 Comprises crude oil, condensates, NGLs, oil from non-conventional sources and other sources of supply.
3 Net volumetric gains and losses in the refining process and marine transportation losses.
4 OPEC includes current members throughout the time series.

Table 2
SUMMARY OF GLOBAL OIL DEMAND

	2023	2024	2025	2026	2027	2028	2029	2030
Demand (mb/d)								
Americas	24.96	24.94	24.96	24.77	24.44	24.14	23.78	23.38
Europe	13.45	13.28	13.19	13.09	12.91	12.71	12.51	12.29
Asia Oceania	7.25	7.26	7.19	7.17	7.17	7.12	7.09	7.05
Total OECD	45.65	45.48	45.34	45.03	44.51	43.98	43.38	42.71
Asia	31.10	32.06	32.80	33.48	34.08	34.56	35.05	35.44
Middle East	8.97	9.03	9.23	9.25	9.28	9.27	9.14	8.99
Americas	6.46	6.51	6.59	6.67	6.74	6.81	6.88	6.96
FSU	4.94	4.90	4.95	5.03	5.12	5.18	5.25	5.32
Africa	4.32	4.42	4.50	4.66	4.78	4.90	5.03	5.16
Europe	0.80	0.81	0.82	0.83	0.84	0.85	0.86	0.87
Total Non-OECD	**56.59**	**57.72**	**58.89**	**59.93**	**60.83**	**61.56**	**62.21**	**62.74**
World	**102.24**	**103.20**	**104.23**	**104.96**	**105.34**	**105.54**	**105.59**	**105.45**
of which:								
United States[1]	20.25	20.38	20.41	20.22	19.90	19.60	19.28	18.91
Europe 5[2]	7.52	7.43	7.37	7.29	7.16	7.04	6.90	6.75
China	16.64	17.12	17.49	17.66	17.89	18.00	18.05	18.06
Japan	3.29	3.24	3.19	3.17	3.12	3.09	3.06	3.03
India	5.41	5.61	5.85	6.02	6.19	6.34	6.55	6.75
Russia	3.76	3.70	3.71	3.73	3.76	3.75	3.75	3.75
Brazil	3.25	3.32	3.33	3.35	3.35	3.36	3.38	3.39
Saudi Arabia	3.70	3.71	3.82	3.72	3.60	3.53	3.36	3.17
Canada	2.45	2.44	2.44	2.44	2.44	2.46	2.45	2.43
Korea	2.45	2.52	2.49	2.48	2.52	2.52	2.51	2.50
Mexico	1.74	1.72	1.71	1.70	1.69	1.68	1.66	1.65
Iran	1.77	1.79	1.81	1.85	1.88	1.91	1.93	1.96
Total	**72.22**	**72.96**	**73.62**	**73.64**	**73.52**	**73.28**	**72.88**	**72.34**
% of World	70.6%	70.7%	70.6%	70.2%	69.8%	69.4%	69.0%	68.6%
Annual Change (% per annum)								
Americas	0.9	-0.1	0.1	-0.8	-1.4	-1.2	-1.5	-1.7
Europe	-0.8	-1.3	-0.6	-0.8	-1.4	-1.5	-1.6	-1.8
Asia Oceania	-0.9	0.2	-1.0	-0.3	0.0	-0.6	-0.5	-0.6
Total OECD	0.1	-0.4	-0.3	-0.7	-1.2	-1.2	-1.4	-1.5
Asia	6.3	3.1	2.3	2.1	1.8	1.4	1.4	1.1
Middle East	0.7	0.7	2.2	0.3	0.3	-0.2	-1.4	-1.6
Americas	2.3	0.8	1.2	1.2	1.0	1.1	1.1	1.1
FSU	0.1	-0.8	1.0	1.6	1.7	1.2	1.4	1.5
Africa	-0.2	2.3	1.8	3.6	2.6	2.6	2.6	2.6
Europe	0.5	1.2	1.6	1.2	1.2	1.1	0.8	0.7
Total Non-OECD	3.8	2.0	2.0	1.8	1.5	1.2	1.1	0.8
World	2.1	0.9	1.0	0.7	0.4	0.2	0.0	-0.1
Annual Change (mb/d)								
Americas	0.23	-0.02	0.02	-0.19	-0.34	-0.30	-0.36	-0.40
Europe	-0.10	-0.17	-0.09	-0.10	-0.18	-0.19	-0.21	-0.22
Asia Oceania	-0.06	0.02	-0.07	-0.02	0.00	-0.04	-0.03	-0.04
Total OECD	0.07	-0.17	-0.13	-0.31	-0.52	-0.53	-0.60	-0.67
Asia	1.85	0.95	0.75	0.68	0.59	0.48	0.49	0.39
Middle East	0.06	0.06	0.20	0.03	0.03	-0.02	-0.13	-0.15
Americas	0.15	0.05	0.08	0.08	0.07	0.07	0.08	0.07
FSU	0.01	-0.04	0.05	0.08	0.09	0.06	0.07	0.08
Africa	-0.01	0.10	0.08	0.16	0.12	0.12	0.13	0.13
Europe	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total Non-OECD	2.06	1.13	1.17	1.04	0.90	0.73	0.65	0.53
World	2.13	0.96	1.03	0.73	0.38	0.20	0.05	-0.14

1 US figures exclude US territories.
2 France, Germany, Italy, Spain and UK.

Table 3
WORLD OIL PRODUCTION
(million barrels per day)

	2022	2023	2024	2025	2026	2027	2028	2029	2030
OPEC									
Crude Oil									
Saudi Arabia	10.52	9.63							
Iran	2.55	2.99							
Iraq	4.45	4.27							
UAE	3.30	3.25							
Kuwait	2.70	2.62							
Nigeria	1.15	1.24							
Libya	0.99	1.16							
Algeria	1.01	0.97							
Congo	0.26	0.27							
Gabon	0.19	0.21							
Equatorial Guinea	0.08	0.06							
Venezuela	0.70	0.77							
Total Crude Oil	**27.89**	**27.44**							
of which Neutral Zone [1]	0.28	0.29							
Total NGLs[2]	**5.44**	**5.52**	**5.59**	**5.68**	**5.91**	**6.14**	**6.34**	**6.53**	**6.70**
Total OPEC[3]	**33.33**	**32.96**							
NON-OPEC[4]									
OECD									
Americas	25.70	27.38	28.12	28.78	29.08	29.28	29.36	29.43	29.49
United States	17.93	19.44	20.10	20.66	20.99	21.18	21.25	21.35	21.50
Mexico	2.01	2.10	2.02	1.98	1.88	1.75	1.64	1.59	1.46
Canada	5.76	5.83	5.99	6.13	6.20	6.33	6.46	6.48	6.51
Chile	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Europe	3.19	3.22	3.17	3.32	3.21	3.06	3.04	2.91	2.77
UK	0.84	0.73	0.68	0.71	0.68	0.64	0.64	0.61	0.57
Norway	1.91	2.02	2.01	2.15	2.08	1.98	1.98	1.90	1.81
Others	0.44	0.46	0.48	0.47	0.45	0.44	0.42	0.41	0.39
Asia Oceania	0.48	0.46	0.46	0.44	0.41	0.39	0.37	0.35	0.33
Australia	0.41	0.38	0.38	0.36	0.33	0.31	0.29	0.27	0.26
Others	0.07	0.07	0.08	0.09	0.08	0.08	0.08	0.08	0.08
Total OECD	**29.37**	**31.05**	**31.75**	**32.55**	**32.71**	**32.72**	**32.77**	**32.69**	**32.59**
NON-OECD									
Former USSR	13.91	13.84	13.53	13.75	13.87	13.81	13.81	13.79	13.78
Russia	11.09	10.96	10.70	10.77	10.78	10.76	10.80	10.81	10.83
Azerbaijan	0.67	0.62	0.60	0.63	0.64	0.61	0.58	0.57	0.55
Kazakhstan	1.82	1.93	1.90	2.03	2.15	2.14	2.13	2.11	2.09
Others	0.33	0.33	0.32	0.31	0.30	0.30	0.29	0.30	0.30
Asia	6.90	6.94	7.02	6.97	6.80	6.60	6.43	6.24	6.02
China	4.18	4.27	4.40	4.45	4.39	4.29	4.20	4.09	3.98
Malaysia	0.56	0.56	0.55	0.52	0.49	0.46	0.43	0.40	0.38
India	0.72	0.70	0.71	0.71	0.68	0.65	0.63	0.60	0.57
Indonesia	0.63	0.63	0.58	0.54	0.51	0.47	0.45	0.42	0.40
Others	0.81	0.78	0.78	0.75	0.74	0.73	0.74	0.73	0.69
Europe	0.11	0.10	0.09	0.09	0.08	0.08	0.08	0.09	0.09
Americas	5.65	6.18	6.53	6.88	7.49	7.69	8.11	8.19	7.85
Brazil	3.12	3.49	3.56	3.80	4.25	4.25	4.46	4.57	4.26
Argentina	0.71	0.77	0.82	0.86	0.92	0.98	1.05	1.13	1.21
Colombia	0.76	0.79	0.78	0.75	0.72	0.70	0.67	0.64	0.62
Guyana	0.28	0.39	0.61	0.71	0.88	1.08	1.27	1.21	1.15
Others	0.78	0.74	0.76	0.75	0.72	0.69	0.66	0.63	0.61
Middle East	3.16	3.13	3.12	3.17	3.20	3.32	3.52	3.61	3.65
Oman	1.07	1.06	1.01	1.01	1.01	1.01	1.02	1.02	1.02
Qatar	1.80	1.82	1.86	1.91	1.95	2.07	2.28	2.37	2.42
Others	0.29	0.25	0.26	0.25	0.24	0.23	0.23	0.22	0.21
Africa	2.53	2.52	2.53	2.66	2.71	2.81	2.76	2.72	2.67
Angola	1.18	1.14	1.11	1.08	1.09	1.10	1.08	1.06	1.04
Egypt	0.60	0.60	0.58	0.58	0.57	0.55	0.53	0.52	0.50
Others	0.76	0.79	0.83	0.99	1.05	1.16	1.15	1.14	1.13
Total Non-OECD	**32.25**	**32.71**	**32.82**	**33.51**	**34.16**	**34.30**	**34.71**	**34.63**	**34.04**
Processing gains[5]	2.32	2.36	2.39	2.40	2.46	2.48	2.47	2.46	2.47
Global biofuels	2.90	3.13	3.25	3.41	3.47	3.51	3.59	3.67	3.75
TOTAL NON-OPEC	**66.84**	**69.25**	**70.22**	**71.86**	**72.79**	**73.02**	**73.54**	**73.46**	**72.85**
TOTAL SUPPLY	**100.17**	**102.21**							

1 Neutral Zone production is already included in Saudi Arabia and Kuwait production with their respective shares.

2 Includes condensates reported by OPEC countries, oil from non-conventional sources, e.g. GTL in Nigeria and non-oil inputs to Saudi Arabian MTBE.

3 OPEC data based on today's membership throughout the time series.

4 Comprises crude oil, condensates, NGLs and oil from non-conventional sources.

5 Net volumetric gains and losses in refining and marine transportation losses.

World oil demand by product (mb/d), 2019-2030

OIL 2024

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2023-30 Growth Rate	2023-30 Growth
LPG/Ethane	13.1	13.3	13.7	14.1	14.6	15.0	15.4	15.8	16.2	16.5	16.8	17.1	2.3%	2.5
Naphtha	6.7	6.6	7.1	6.9	7.3	7.5	7.7	7.9	8.1	8.2	8.3	8.5	2.2%	1.2
Gasoline	26.9	23.7	25.7	26.3	27.0	27.2	27.2	27.0	26.7	26.4	26.0	25.4	-0.8%	-1.6
Jet/Kerosene	7.9	4.7	5.1	6.2	7.2	7.5	7.6	7.8	8.0	8.1	8.3	8.5	2.4%	1.3
Gasoil/Diesel	28.3	26.1	27.6	28.4	28.5	28.4	28.8	28.9	28.9	28.9	28.8	28.7	0.1%	0.2
Residual fuel oil	6.2	5.8	6.4	6.5	6.4	6.5	6.5	6.5	6.4	6.4	6.3	6.3	-0.3%	-0.1
Other products	11.5	11.6	11.8	11.8	11.3	11.0	11.1	11.1	11.1	11.1	11.1	11.0	-0.4%	-0.4
Total products	**100.6**	**91.7**	**97.5**	**100.1**	**102.2**	**103.2**	**104.2**	**105.0**	**105.3**	**105.5**	**105.6**	**105.4**	**0.4%**	**3.2**
Annual change	**0.5**	**-8.9**	**5.8**	**2.6**	**2.1**	**1.0**	**1.0**	**0.7**	**0.4**	**0.2**	**0.0**	**-0.1**		

Global oil demand by product (mb/d), 2019-2028

OIL 2023

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2022-28 Growth Rate	2022-28 Growth
LPG/Ethane	13.2	13.2	13.8	14.2	14.4	14.6	14.8	15.1	15.5	15.9	1.9%	**1.7**
Naphtha	6.6	6.4	6.9	6.8	7.0	7.4	7.8	8.0	8.2	8.3	3.4%	**1.5**
Gasoline	26.7	23.7	25.6	26.0	26.6	26.6	26.6	26.4	26.1	25.8	-0.2%	**-0.3**
Jet/Kerosene	8.0	4.7	5.2	6.2	7.3	7.5	7.6	7.9	8.0	8.2	4.7%	**2.0**
Gasoil/Diesel	28.3	26.1	27.5	28.3	28.4	28.5	28.7	28.7	28.8	28.9	0.4%	**0.6**
Residual fuel oil	6.2	5.6	6.2	6.5	6.7	6.7	6.7	6.7	6.7	6.7	0.4%	**0.2**
Other products	11.8	11.9	12.2	11.8	11.8	11.9	11.9	12.0	12.0	12.0	0.3%	**0.2**
Total products	**100.7**	**91.7**	**97.5**	**99.8**	**102.3**	**103.1**	**104.1**	**104.8**	**105.3**	**105.7**	**1.0%**	**5.9**
Annual change	*0.6*	*-9.0*	*5.8*	*2.3*	*2.4*	*0.9*	*1.0*	*0.7*	*0.5*	*0.4*		

OPEC Sec Gen: Peak oil demand not on the horizon

EA Forum
13 Jun 2024

Analysts

EA Forum features commodities views and analysis from non-EA experts. Opinions and views expressed here are solely those of the author(s), not those of EA Group.

Haitham Al Ghais became OPEC Secretary General in 2022. He served as Kuwait's OPEC governor from 2017–21 and was the inaugural chairman of the OPEC+ Joint Technical Committee in 2017. Al Ghais was already an oil and gas industry veteran, having held senior positions in key OPEC and OPEC+ bodies and committees, as well as at the Kuwait Petroleum Corporation.

In the 1990s and 2000s, the world regularly saw column inches devoted to the theory of peak oil supply, amplified by voices like Colin Campbell and Matthew Simmons. Decades later, however, it has still not come to pass, as enhanced economics and constant improvement in technology have helped lower costs and open up new frontiers to expand the resource base.

The past decade or so has witnessed a shift to talk of peak oil demand, with some forecasters increasingly pushing theoretical scenarios that have decided before any data is analyzed that oil should not be part of a sustainable energy future.

This is evident in some net zero scenarios, with suggestions that oil demand will peak before 2030, or more dramatically, that oil demand will drop by more than 25% by 2030, and with calls to

stop investing in new oil projects.

This narrative was repeated only yesterday when the IEA published its *Oil 2024* report in which it once again stated that oil demand would peak before 2030. It is a dangerous commentary, especially for consumers, and will only lead to energy volatility on a potentially unprecedented scale.

The IEA's narratives for oil are dangerous, especially for consumers, and could lead to unprecedented volatility.

We have also heard similar types of narrative before. Ones that have proven to be wrong. The IEA suggested that gasoline demand had peaked in 2019, but gasoline consumption hit record levels in 2023, and indeed continues to rise this year. It also stated that coal demand had peaked in 2014, but today coal consumption continues to hit record levels.

Many net zero futures focus almost exclusively on replacing hydrocarbons, which make up more than 80% of the global energy mix today. Rather than adding new energy sources to the mix, the focus is on substituting energy sources, which flies in the face of the history of supplying energy to the world. The emphasis is on rhetoric over reality; constraint over consumer choice.

Today, wind and solar supply around 4% of global energy, with electric vehicles (EVs) having a total global penetration rate of between 2% and 3%, even though the world has invested over $9.5 trillion in 'transitioning' over the past two decades. OPEC welcomes all the progress made in renewables and EVs, but it is nowhere near close enough to replace 80% of the energy mix. Furthermore, electricity grids, battery manufacturing capacity and access to critical minerals remain major challenges.

We should also remember that the development of renewables and EVs require some oil-related products. Their future expansion will add to oil demand.

Of course, we all want to lower emissions, but at the same time, we all need ample, reliable and affordable supplies of energy. The two cannot be decoupled. Instead, our energy futures must focus on the full picture and not on a partial, incomplete one. In this respect, three key facts are worth bearing in mind.

We all want to lower emissions, but we all need ample, reliable and affordable supplies of energy. The two cannot be decoupled.

Firstly, future energy and oil demand growth primarily lies within the non-OECD developing world, driven by increasing populations, an expanding middle class and growing economies. From now until 2045, non-OECD oil demand is set to expand by over 25 million barrels a day (mb/d), with China and India contributing over 10 mb/d alone.

We should also remember that billions of people in the developing world still lack access to modern energy services. For these people, their energy future is not about net zero, deciding on the purchase of an electric vehicle, or ruminating over the costs and benefits of energy sources. Instead, it is about achieving the energy basics that the developed world takes for granted, such as being able to turn on a light, cook on a clean stove or have motorized transport to move to and from work or school.

Secondly, oil demand continues to increase. At OPEC, we see oil demand growth of 4 mb/d over the two years of 2024 and 2025, with other forecasters also seeing an expansion of over 3 mb/d. Even the IEA sees growth of 2 mb/d over this period, followed by growth of 0.8 mb/d in 2026. It then dramatically drops off a cliff to almost no growth in the next four years through 2030.

For billions in the developing world, future energy means being able to turn on the lights and cook on a clean stove.

This is an unrealistic scenario, one that would negatively impact economies across the world. It is simply a continuation of the IEA's anti-oil narrative. Given the real trends we see today, we do not see peak oil demand by the end of the decade.

Thirdly, many parts of the world are witnessing a consumer pushback as populations comprehend the implications of ambitious and unrealistic net zero policy agendas. This, in turn, is prompting policymakers to reevaluate their approaches to future energy pathways, for example, in the UK, with the government recently supporting new oil and gas licenses.

These shifts, alongside developments in the economic landscape, have seen OPEC revise its oil demand expectations upwards to 116 mb/d by 2045, and there is potential for this level to be even higher. We do not foresee a peak in oil demand in our long-term forecast.

Consumer pushback against unrealistic net zero policy agendas is prompting policymakers to re-evaluate their approach to future energy.

On the supply side, technological improvements are allowing us to continually add resources to the base to help meet demand growth. There are clearly enough resources for this century and beyond, with the world's proven crude oil reserves standing at over 1.55 trillion barrels. Moreover, technologies are also enabling us to take huge strides in reducing emissions, as exemplified by the availability of cleaner fuels, much improved efficiencies and technologies such as carbon capture, utilization and storage, carbon dioxide removal and direct air capture.

Everyone is free to have an opinion, but it is important that this is based on the realities we see before us today. The clear need to prioritize energy security, utilize all available energies, deliver energy affordability, enhance sustainability, reduce emissions and not limit our energy options in the face of expanding demand.

Oil can deliver on all those fronts, and as we look to the future it is the very versatility of oil that ensures that we do not see peak oil demand on the horizon. Just as peak oil supply has never transpired, predictions of peak oil demand are following a similar trend.

Against this backdrop, stakeholders need to recognize the need for continued oil industry investment, today, tomorrow, and many decades into the future given the products derived from crude oil are essential for our daily lives. Those that dismiss this reality are sowing the seeds for future energy shortfalls and increased volatility, and opening the door to a world where the gap between the 'energy haves' and 'energy have nots' grows even further.

https://www.wsj.com/world/middle-east/how-an-iranian-backed-militia-ties-down-u-s-naval-forces-in-the-red-sea-3821056c?mod=Searchresults_pos1&page=1

How an Iranian-Backed Militia Ties Down U.S. Naval Forces in the Red Sea

Yemen's Houthis have launched hundreds of attacks, and American military officials see no end in sight

Video from the Houthi Media Center shows what it said was the November takeover of a commercial ship by Yemen's Houthi fighters.

By Gordon Lubold

Follow

June 12, 2024 11:00 pm ET

ABOARD THE USS LABOON—It was just after 9 p.m. when radar operators aboard this U.S. Navy destroyer in the Red Sea spotted a tiny arrow on their screens: a missile hurtling toward them at five times the speed of sound.

The crew of the warship with 300 sailors aboard had just seconds to shoot it down. As the projectile closed in, the Laboon launched an interceptor from silos beneath its deck, destroying the incoming missile in flight.

The Jan. 9 attack came amid one of the largest maritime battles the U.S. has faced since World War II. Houthi rebels in Yemen that day launched 18 drones and cruise missiles, along with the ballistic missile, at the Laboon and three other American destroyers, a U.S. aircraft carrier and a British warship in an attack that unfolded over a dozen hours.

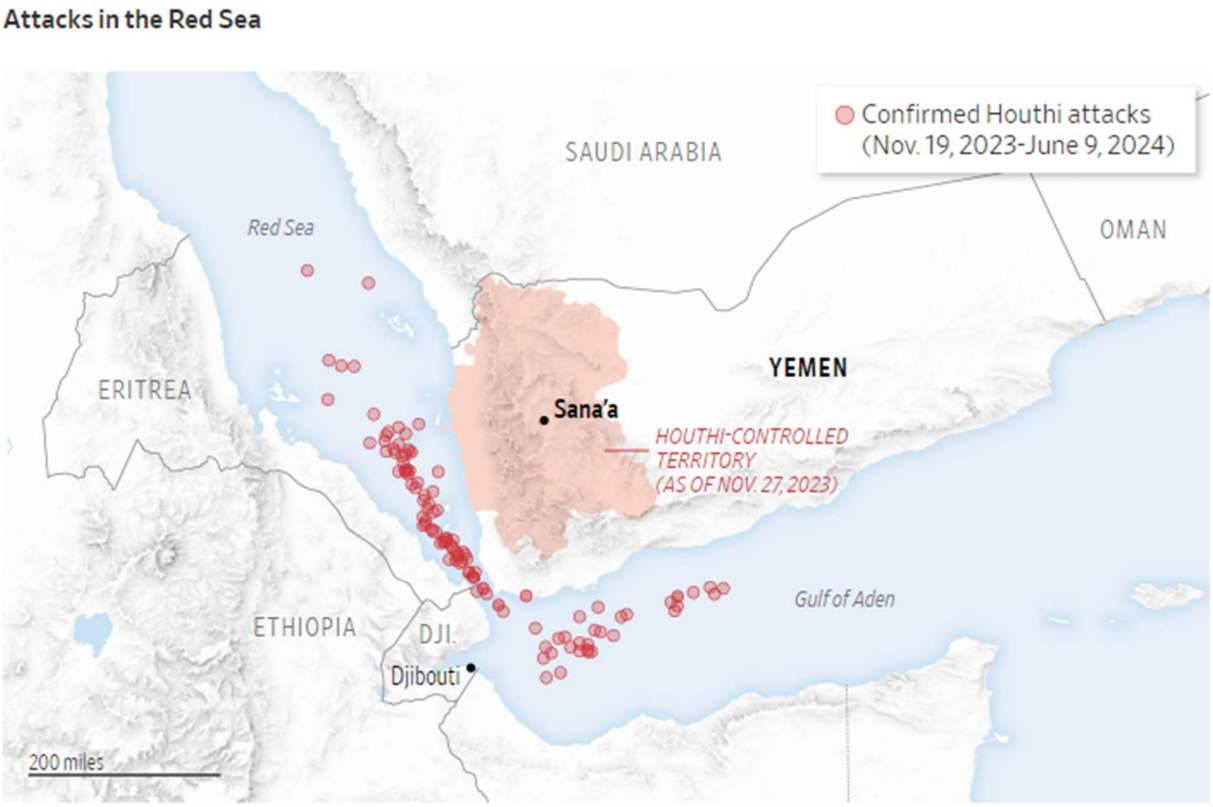
The Laboon, a U.S. Navy destroyer, in 2015. PHOTO: JEFFREY RICHARDSON/U.S. NAVY/AFP/GETTY IMAGES

Since Hamas attacked Israel on Oct. 7, Iran-backed Houthi rebels have lobbed missiles, drones and other weapons at commercial vessels and warships nearly every day. Although most of the weapons

have been shot down, at least 77 cargo ships have been hit, and one British-owned ship carrying 20,000 tons of fertilizer aboard was sunk.

Though largely ineffective, the Houthi attacks have been able to disrupt shipping and keep the U.S. and its allies tied down, frustrating the Navy's decades-old mission of keeping open the region's critical sea lanes.

The attacks are the direct result of fateful geography. To travel through the Red Sea and reach the Suez Canal, one of the world's most heavily traveled shipping routes, cargo ships must pass through the Bab al-Mandab strait skirting the coast of Yemen, within range of the Houthis' arsenal of missiles and drones.



No warships are known to have been hit in the more than 80 attempted attacks, but there have been some close calls, underscoring the perils for the U.S. and allies that have sent ships to the area the longer the conflict continues.

The Biden administration has limited its military response to the Houthi attacks, hoping to avoid being drawn into a wider Middle East conflict. But that has meant the flotilla of U.S. and allied warships has spent weeks and even months patrolling the Red Sea on alert—and the attacks have kept coming.

"We haven't taken a hit, but strategically, we haven't restored the flow of goods," said Gene Moran, a retired Navy captain who commanded the Laboon more than 20 years ago.

More than 20,000 commercial ships pass through the Red Sea in a typical year, including 150 huge tankers and containerships, but the ship traffic through the strait has dropped steeply since the attacks began.


Newly recruited Houthi fighters during a January ceremony marking the end of their training. PHOTO: OSAMAH YAHYA/ZUMA PRESS


Portraits of Houthi fighters killed in the war in Yemen. PHOTO: YAHYA ARHAB/EPA/SHUTTERSTOCK

Since the attacks began in November, in a Houthi show of solidarity with Palestinians in Gaza, containership traffic through the strait fell by 67% and tanker traffic has dropped by about 50%, according to Windward, a maritime-intelligence company.

The Houthis have focused attention on Israeli-owned vessels or those headed for the port of Eilat in southern Israel, which has seen its ship traffic drop steeply. Many shipping companies have rerouted ships around the southern tip of Africa.

On Wednesday, a Greek ship was hit by an unmanned waterborne drone and began taking on water.

Avril Haines, the director of national intelligence, said in congressional testimony last month that the U.S.-led effort has been insufficient to deter the militant group’s targeting of ships and that the threat will “remain active for some time.”

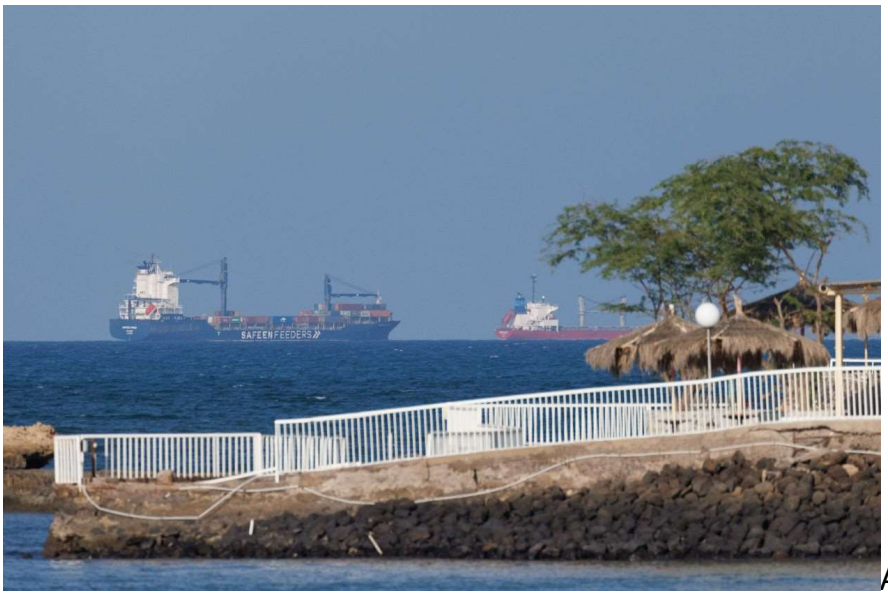

The aircraft carrier Dwight D. Eisenhower in the Red Sea on Wednesday. PHOTO: BERNAT ARMANGUE/ASSOCIATED PRESS

Aircraft launching from the Dwight D. Eisenhower. Video: U.S. Central Command

Earlier this year, the Laboon was patrolling in calm waters under a clear sky north of the Bab al-Mandab. On the bridge, radar monitors showed cargo ships making their way north, none of them under attack. That morning, four one-way attack drones targeted a different U.S. warship, the first such attack after a three-day lull.

During the Jan. 9 attack, the Laboon crew first saw two cruise missiles heading toward the ship and shot them down. The cruise missiles lumbered along at subsonic speeds, allowing relatively ample time to respond. Then came the ballistic missile.

“These things are telephone pole-sized, you get three minutes of flight time, you detect it for 45 seconds, you get like 10 seconds to determine whether you’re going to shoot at it or not,” said Capt. David Wroe of U.S. carrier strike group in the Red Sea.



A view of commercial shipping off the coast of Djibouti. PHOTO: LUKE DRAY/GETTY IMAGES

The Laboon uses several weapons systems to defend against the Houthi attacks, including its “vertical launching system,” which fires interceptor missiles from silos beneath the bow and stern called the “checkerboard.” When fired, the missiles burst from beneath the deck with a loud swoosh, heading for the target.

“We did our damndest to make sure we were ready for a ballistic missile, but we weren’t really expecting it,” said Cmdr. Eric Blomberg, the Laboon’s commanding officer.

In addition to shooting down incoming missiles and drones, the U.S. and other countries have carried out several waves of airstrikes against launchers, radar installations and other facilities used by the Houthis in its attacks.

The longer the Houthi attacks continue, the more likely it is that a U.S. warship could be hit, said Frank McKenzie, a retired Marine general. “There’s always a chance that something happens and one of our ships could be struck, and that chance only increases the longer we allow the situation to continue,” he added.illustration: Eve Hartley

The Navy says it has spent about $1 billion on munitions used in defending the Red Sea, conducting more than 450 strikes and intercepting more than 200 drones and missiles since November when the attacks began.

U.S. officials worry that the conflict is simply not sustainable for the U.S. defense industrial base, already strained by the demands for weaponry from Ukraine and Israel.

“Their supply of weapons from Iran is cheap and highly sustainable, but ours is expensive, our supply chains are crunched, and our logistics tails are long,” said Emily Harding of the Center for Strategic and International Studies in Washington. “We are playing whack-a-mole, and they are playing a long game.”

Write to Gordon Lubold at gordon.lubold@wsj.com

CSU researchers continue to predict well above-average Atlantic hurricane season in June update to forecast

By CSU Tropical Climate and Weather Team and MarComm Staff

Note to reporters: The full forecast is available at tropical.colostate.edu. The CSU team will also issue forecast updates on July 9 and Aug. 6. Please contact Jennifer Dimas (Jennifer.Dimas@colostate.edu) and Joshua Rhoten (Joshua.Rhoten@colostate.edu) for English and Spanish media inquiries and if you would like to be included in future news release sends.

Colorado State University hurricane researchers are maintaining their prediction from early spring for an extremely active Atlantic hurricane season in 2024 with their June forecast update issued today.

The updated forecast still predicts 23 named storms, of which 11 reach hurricane strength during the season, which runs from June 1 to Nov. 30. CSU researchers predict that five of the 11 hurricanes reach major hurricane strength (Category 3, 4 or 5) with sustained winds of 111 mph or greater. Landfall probabilities discussed in the report remain unchanged from the initial outlook issued on April 4. The team will issue additional forecasts on July 9 and Aug. 6.

The updated June forecast takes newly available data into consideration as the season commences. Uncertainty remains in the forecast, however, as the atmosphere-ocean system can sometimes change dramatically between this month and the peak of the Atlantic hurricane season, which runs from August–October.

The team again cites very warm sea surface temperatures in the tropical and eastern subtropical Atlantic as a primary factor for their active season prediction.

When waters in the eastern and central tropical and subtropical Atlantic are much warmer than normal in the late spring/early summer, it tends to force a weaker subtropical high and associated weaker winds blowing across the tropical Atlantic. These conditions will likely maintain the well-above-average water temperatures in the tropical Atlantic for the peak of the 2024 Atlantic hurricane season. A very warm Atlantic favors an above-average season because warm ocean water serves as a fuel source for hurricanes. In addition, a warm Atlantic leads to lower atmospheric pressure and a more unstable atmosphere. Both conditions favor hurricanes.

El Niño conditions are weakening quickly across the tropical Pacific and are likely to transition to La Niña conditions by the peak of the Atlantic hurricane season. La Niña tends to weaken upper-level westerly winds across the Caribbean and the tropical Atlantic. These decreased upper-level winds result in reduced vertical wind shear, favoring Atlantic hurricane formation and intensification.

Given the combined hurricane-favorable signals of an extremely warm Atlantic and the absence of El Niño, the forecast team has higher-than-normal confidence in this outlook that the 2024 Atlantic hurricane season will be very active.

This is the highest predicted number of hurricanes that CSU has ever issued in a June outlook. The prior high was for 10 hurricanes in 2010 (when 12 were observed) and in 2022 (when eight were observed). June forecasts have been issued by CSU since 1984.

How Colorado State University issues its hurricane forecasts

The team bases its forecasts on a statistical model, as well as four models that use a combination of statistical information and model predictions of large-scale conditions 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. These models use 25–45 years of historical hurricane seasons and evaluate conditions including: Atlantic sea surface temperatures, sea level pressures, vertical wind shear levels (the change in wind direction and speed with height in the atmosphere), El Niño (warming of waters in the central and eastern tropical Pacific), and other factors.

So far, the 2024 hurricane season is exhibiting atmospheric and oceanic conditions that are similar to 1878, 1926, 1998, 2005, 2010 and 2020.

“Our analog seasons were all very active Atlantic hurricane seasons,” said Phil Klotzbach, senior research scientist in the Department of Atmospheric Science at CSU and lead author of the report. “This highlights the somewhat higher level of confidence that exists with this outlook relative to our typical early June outlook.”

The team predicts that 2024 hurricane activity will be about 170% of the average season from 1991–2020. By comparison, 2023’s hurricane activity was about 120% of the average season. The most significant hurricane of the 2023 Atlantic hurricane season was Hurricane Idalia. Idalia made landfall at Category 3 intensity in the Big Bend region of Florida, causing $3.5 billion of damage and resulting in eight direct fatalities.

In addition to the various hurricane metrics that CSU has used for many years, the forecast team introduced a new metric last year. Accumulated Cyclone Energy (ACE) occurring west of 60 degrees west longitude is an integrated metric accounting for storm frequency, intensity and duration in the western half of the Atlantic basin. ACE generated west of 60 degrees west correlates better with landfalling storms in the Atlantic basin than basinwide ACE, since virtually all hurricane-prone landmasses in the Atlantic Ocean are located west of 60 degrees west.

Generally, a slightly lower percentage of basinwide ACE occurs west of 60 degrees west in El Niño years relative to La Niña years. Since the team anticipates La Niña as the most likely outcome in 2024, the percentage of basinwide ACE occurring west of 60 degrees west is predicted to be higher than last year.

This is the 41st year that CSU has issued an Atlantic basin seasonal hurricane forecast. Professor Emeritus Bill Gray originated the seasonal forecasts at CSU and launched the report in 1984. He continued to author them until his death in 2016. The authors of this year's forecast are Phil Klotzbach, Professor Michael Bell, Alex DesRosiers, and Research Scientist Levi Silvers. The CSU Tropical Weather and Climate Team is part of the Department of Atmospheric Science in the Walter Scott, Jr. College of Engineering at CSU and is one of the top-ranked atmospheric science programs in the world.

The CSU forecast is intended to provide a best estimate of activity in the Atlantic during the upcoming season – not an exact measure.

As always, the researchers caution coastal residents to take proper precautions.

"It takes only one storm near you to make this an active season for you," Bell said.

Hurricane landfalling probability included in 2024 report

The report also includes the probability of major hurricanes making landfall:

- 62% for the entire U.S. coastline (average from 1880–2020 is 43%).
- 34% for the U.S. East Coast, including the Florida peninsula (average from 1880–2020 is 21%).
- 42% for the Gulf Coast from the Florida panhandle westward to Brownsville (average from 1880–2020 is 27%).
- 66% for the Caribbean (average from 1880–2020 is 47%).

The forecast team also provides probabilities of named storms, hurricanes and major hurricanes tracking within 50 miles of each county or parish along the Gulf and U.S. East Coast, as well as hurricane-prone coastal states, Mexican states, Canadian provinces and countries in Central America and the Caribbean. These probabilities for regions and countries are adjusted based on the current seasonal forecast.

Funding for this year's report has been provided by Gallagher Re, Ironshore Insurance, the Insurance Information Institute, Weatherboy, Insurance Auto Auctions and a grant from the G. Unger Vetlesen Foundation.

ATLANTIC BASIN SEASONAL HURRICANE FORECAST FOR 2024

Forecast Parameter and 1991–2020 Average (in parentheses)	Issue Date 4 April 2024	Issue Date 11 June 2024
Named Storms (14.4)	23	23
Named Storm Days (69.4)	115	115
Hurricanes (7.2)	11	11
Hurricane Days (27.0)	45	45
Major Hurricanes (3.2)	5	5
Major Hurricane Days (7.4)	13	13
Accumulated Cyclone Energy Index (123)	210	210
ACE West of 60°W (73)	125	125
Net Tropical Cyclone Activity (135%)	220	220

https://www.prnewswire.com/news-releases/engie-unveils-key-trends-for-renewable-energy-buying-in-north-america-302171990.html

ENGIE Unveils Key Trends for Renewable Energy Buying in North America

NEWS PROVIDED BY
ENGIE Resources
Jun 13, 2024, 09:00 ET

Second annual Business Energy Census highlights growing demand for renewables, strategic focus and expectations of higher prices and volatility

HOUSTON, June 13, 2024 /PRNewswire/ -- ENGIE Resources, a leading commercial electricity provider and America's Energy Greentailer™, in collaboration with Energy Research Consulting Group ("ERCG"), today announced the release of the second annual North American Business Energy Census. This comprehensive report offers valuable market insights and opinions from over 100 aggregators, brokers and consultants (ABCs), representing approximately 1.07 million end-use customer locations, reinforcing ENGIE Resources' position as a thought leader in the Renewable Energy space.

As an affiliate of ENGIE North America (ENGIE) and part of the ENGIE Group, a global leader in the Net Zero energy transition, ENGIE Resources aims to deliver journey-specific insights from diverse firms across various geographical locations, revenue brackets and business models.

"As the energy landscape evolves, accurate supplier data and industry statistics are crucial for shaping a sustainable energy strategy," said J.D. Burrows, Vice President of Customer Analytics and Engagement at ENGIE Resources. "Our goal is to empower businesses with actionable insights that drive informed decisions and the adoption of green energy solutions."

Based on months of comprehensive research, ENGIE's annual Business Energy Census report highlights the evolving energy sector and the growing importance of strategic energy management for businesses of all sizes. Survey participants include a spectrum of roles, spanning from owners and C-Suite executives to sales and operation managers. The 2024 Business Energy Census identifies several mega-trends that indicate heightened volatility and uncertainty in the energy market, including:

Trend One – Shifting Strategic Perspectives – 57% of respondents, up from 43%, in the previous year, believe that the strategic importance of energy has grown to reach a point of equilibrium. This change aligns with the stabilization of energy prices and growing confidence in the effectiveness of existing energy strategies.

Trend Two – Forecast of Rising Prices and Volatility – 40% of respondents expect power and natural gas prices and volatility to increase, suggesting a need for more robust risk management strategies.

Trend Three – The Rise in Green Premium Acceptance – There is an increase in willingness to pay a premium for Green Energy. 62% of customers are willing to pay a small premium, compared to 56% in 2023, indicating a growing acceptance of green energy solutions. Year to year, we have also seen a decrease from 28% to 18% of survey participants who said their customers are not willing to pay any premium at all for renewable energy. These trends could be an indication of the future of energy and an increase in company initiatives to transition to net-zero emissions.

Trend Four – From Policy to Action: Strengthening Regulatory Support – Respondents expressed a notable lack of confidence in the regulators' ability to structure markets conducive to fostering three principles: competition, transparency and innovation. Despite the overarching sentiment, there is a marked improvement in attitudes compared to 2023, hinting at a growing belief that regulatory support is on an upward trajectory, albeit slowly.

Trend Five – Driving Forces: Energy's Impact on Mergers and Acquisitions – 45% of respondents reported that energy prices and volatility are less of a disruptive force in deterring or delaying major initiatives such as mergers, acquisitions and expansions compared to previous years. This shift indicates a stabilizing effect of the energy market on strategic corporate decision-making.

Trend Six – From Data to Decisions: Empowering Stakeholders with Market Insights – 48% of Texas respondents believe that current market information is inadequate for making informed decisions, surpassing the national dissatisfaction rate by 11%. There is a clear indication that market participants are advocating for more and better energy market information.

"Too often, we hear from people outside our industry telling us what business customers are looking for in their energy solutions," said Young Kim, Principal at Energy Research Consulting Group. "It is about time that our industry speaks for itself. I am proud to partner with ENGIE Resources to cover the most pressing energy issues affecting the business community and to reveal key insights that our industry can use."

Through the 2024 Business Energy Census customers and partners can find observations that confirm the strategy to support the development and delivery of green energy solutions for power and gas customers.

To view the complete survey report, please visit www.engie-na.com/2024census.

About ENGIE North America

THE FUTURE OF ENERGY

2024 BUSINESS ENERGY CENSUS REPORT

CONTENTS

2024 BUSINESS ENERGY CENSUS
ENGIE RESOURCES

INTRODUCTION

DATA-DRIVEN DOMINANCE

To maintain a viable energy strategy, customers must gain access to accurate supplier data regarding industry trends and statistics from a reliable source. The 2024 Business Energy Census Report, produced annually by leading global energy provider ENGIE, and ERCG, delivers comprehensive insights and current industry trends to provide a clear direction as we move toward the future of clean energy.

Whether navigating regulatory shifts, capitalizing on emerging trends, or optimizing operational strategies, this resource equips organizations of all sizes with the knowledge and guidance needed to make informed decisions and drive success in the ever-evolving energy sector.

This census represents months of comprehensive research, utilizing detailed surveys to gather responses from diverse firms across various geographical locations, revenue brackets, and business models. Participants include a spectrum of roles, spanning from owners and C-suite executives to sales and operations managers.

EXECUTIVE SUMMARY

EMERGING ENERGY MEGA-TRENDS HIGHLIGHT FORWARD VOLATILITY

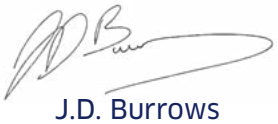
We are proud to present the results of the 2024 Business Energy Census. For the second year, we have teamed up with Energy Research Consulting Group [ERCG], allowing us to measure changes in trends, add new variables, and paint a clearer picture of the changing energy landscape.

We have observed a few mega-trends that foreshadow increased volatility and uncertainty. With natural gas forwards sitting at record lows and summer power prices trending higher in many markets, the historic connection between power and gas prices is broken. The abundance of wind and solar generation capacity in ERCOT is currently meeting the surge in consumption from various sources. However, the slightest change in generation forecasts or actual C&I demand can send the market into uncertainty and scarcity price levels. The resulting supply and demand balance changes can lead to forward market uncertainty.

Case in point: In the current census, survey responses from more than 100 leading energy brokers and consultants, representing approximately 1.07M customer locations (self-reported), show that 57% of the sample expect annual power price volatility to be somewhat higher to much higher. The same price volatility prediction for natural gas is 35%.

ENGIE is committed to providing our customers with actionable insights and valuable data in this evolving market. As America's Energy Greentailer™, our aim is to provide you with journey-specific insights. Through the 2024 Business Energy Census, our customers and partners can find observations that confirm the strategy to support the development and delivery of green energy solutions to power and gas customers.

> **ENGIE is committed to providing our customers with actionable insights in this evolving market.**



J.D. Burrows
VICE PRESIDENT | Customer Analytics and Engagement
ENGIE Resources

01

TREND 01

SHIFTING STRATEGIC PERSPECTIVES

In our 2024 survey, B2B customers have embraced the significance of a robust energy strategy, marking a positive evolution in their approach. This transformation can be attributed to several factors, including the progression of energy markets and the newfound stability in energy prices.

The year 2022 was characterized by soaring prices and market volatility, so businesses diligently prioritized the development and execution of energy strategies aimed at future-proofing their operations. Now, with market prices and volatility leveling off, corporate energy strategies have rightfully claimed their top position on the hierarchy of business priorities, allowing organizations to allocate their attention to other pressing matters.

Recent surveys reflect this shift in mindset as 57% of respondents, up from 43%, in the previous year, believe that the strategic importance of energy has grown to reach a point of equilibrium. This change aligns with the stabilization of energy prices and growing confidence in the effectiveness of existing energy strategies.

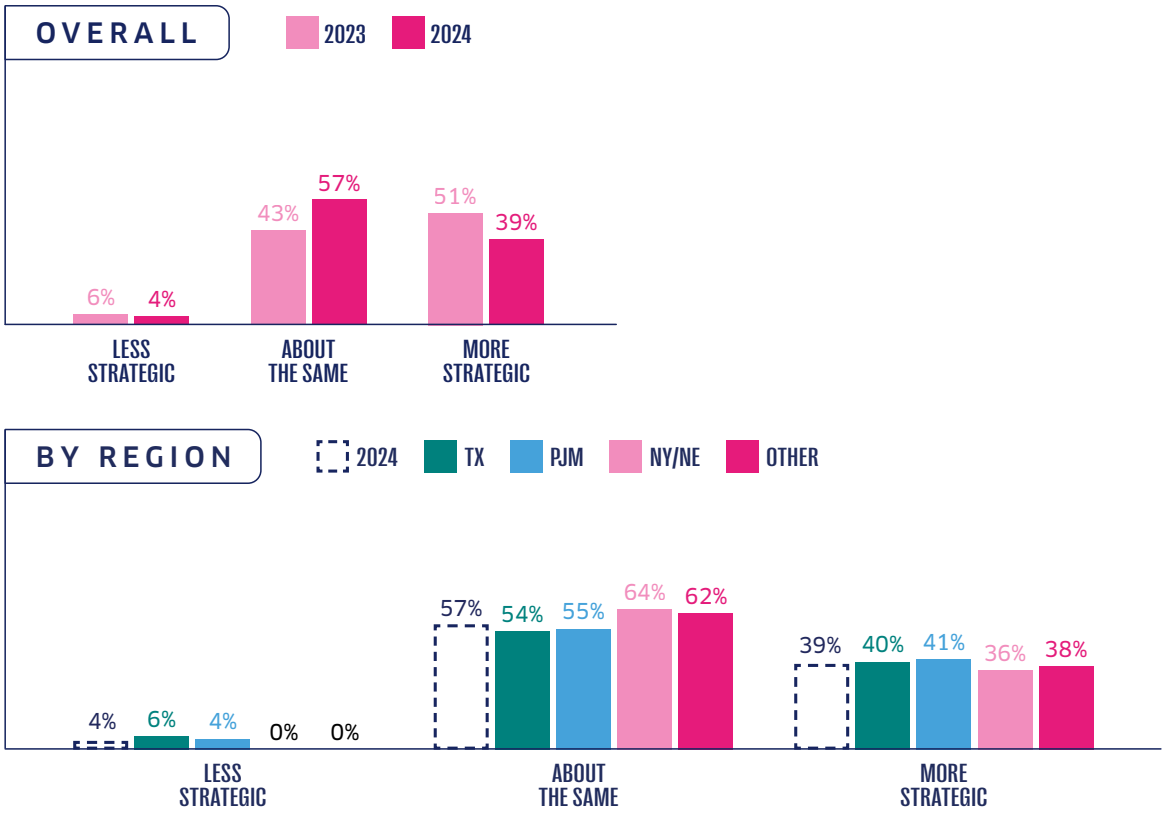
While variations persist across regions, with areas like Texas and PJM maintaining a steadfast focus on energy strategy, these disparities likely stem from localized market dynamics, weather patterns, regulatory frameworks, or sector-specific requirements. Nevertheless, the overarching trend underscores the increasing recognition of the pivotal role that energy strategy plays in driving business success and resilience.

01

TREND 01

SHIFTING STRATEGIC PERSPECTIVES (CONTINUED)

WHICH BEST DESCRIBES ENERGY AND ITS STRATEGIC PLACE IN YOUR CUSTOMER'S ORGANIZATION?



KEY TAKEAWAYS

- Declining energy prices correlate with a consistent emphasis on energy strategy.
- Businesses are finding a new balance between energy strategy and additional strategic considerations.
- While energy strategy settles into a more integral role in business planning and direction, regional factors still significantly impact perceptions.

01

TREND 01

SHIFTING STRATEGIC PERSPECTIVES (CONTINUED)

IMPLICATIONS

- With stabilizing energy prices, customers feel risk mitigation is falling into place.
- Customers may reallocate investments to areas of growth with more predictable costs.
- There could be a shift in how customers justify sustainability projects, moving from cost-saving measures to long-term goals.
- Customers may adopt more regionally tailored energy strategies that consider localized market conditions and regulatory landscapes.
- Energy providers must understand regional differences to offer more customized or relevant services.

OPPORTUNITIES

- Energy providers and consultants can help businesses recalibrate their energy strategies or support long-term efficiency and sustainability.
- There is an opportunity to offer customers energy management technologies that promote solutions to balance cost savings with operational improvements.
- As customers prioritize their energy strategies, they will need accurate market intelligence to inform their decisions.

Was it Winter Storm URI? The European energy crisis driven by the Ukraine conflict? The Inflation Reduction Act? COVID-19? Maybe it was all of these and other factors. Whatever it was, it's long overdue. Energy is becoming more strategic within commercial and industrial end users, and all stakeholders will benefit.

Rick Wirth
DIRECTOR | Customer Analytics and Engagement
ENGIE Resources

02

TREND 02

FORECAST OF RISING PRICES AND VOLATILITY

After a period of lower energy prices and reduced volatility in 2023 compared to the turbulence of 2022, survey respondents expect an uptick in both prices and volatility in the coming year.

The survey data indicates approximately 48% of the participants surveyed believe power prices will be “somewhat higher,” and 5% predict they will be “much higher.” This outlook may reflect a combination of market recovery, regulatory changes, and a response to low prices in the past.

The consensus also leans toward price increases for natural gas. While 33% of respondents expect natural gas prices to be “somewhat higher,” 2% foresee them being “much higher.” While many of those surveyed anticipate higher volatility, a notable portion expect it to remain steady.

In the dynamic landscape of Renewable Energy Certificates [RECs], the confluence of regional price disparities and market volatility underscores the criticality of green-focused risk management. As prices are anticipated to climb and new power demand and changing regulations increase price volatility, navigating this complexity demands a specialized acumen that transcends mere market observation. Our expertise lies in distilling these multifaceted challenges into strategic foresight, empowering stakeholders to make informed decisions amidst the ebb and flow of REC valuations.

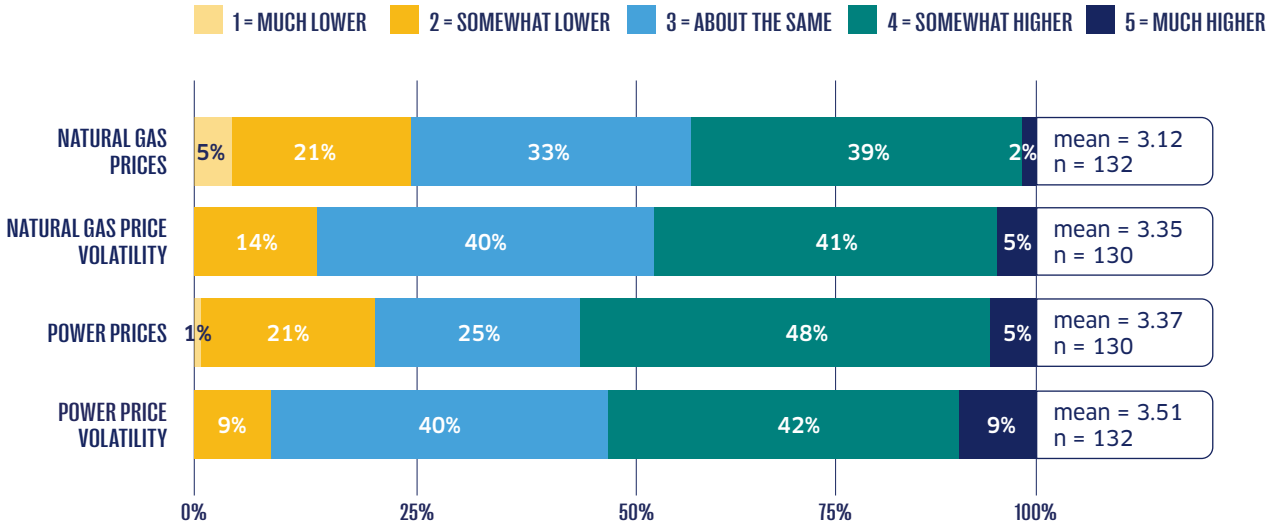
Ronnie Chahal
DIRECTOR | Portfolio Optimization
ENGIE Resources

02

TREND 02

FORECAST OF RISING PRICES AND VOLATILITY (CONTINUED)

WILL NATURAL GAS AND POWER PRICES BE HIGHER OR LOWER OVER THE NEXT YEAR? WHAT ABOUT VOLATILITY?



KEY TAKEAWAYS

- Forty percent of respondents expect power and natural gas prices and volatility to increase.
- Expectations of increased price and volatility suggest a need for more robust risk management strategies.

IMPLICATIONS

- Businesses need to incorporate higher prices and greater volatility into their financial and operational planning.
- There is a heightened demand for hedging and other financial instruments to manage the anticipated volatility.
- Anticipation of rising prices might incentivize investments in energy efficiency and alternative energy sources.

02

TREND 02

FORECAST OF RISING PRICES AND VOLATILITY (CONTINUED)

OPPORTUNITIES

- There is fertile ground for solutions that provide stability and efficiency in the face of expected trends.
- Companies providing energy management and efficiency solutions are in increased demand.
- With volatility expected to rise, innovations in energy storage and grid management could be particularly attractive investments.

03

TREND 03

THE RISE IN GREEN PREMIUM ACCEPTANCE

In an era marked by an increasing focus on sustainability, customers demonstrate a growing willingness to invest in green energy. Survey participants report a significant uptick in the number of customers ready to pay a premium for renewable energy sources, underpinned by heightened demand and the escalated prices. The trend is striking, with 82% of customers in 2024 affirming their willingness to pay at least some premium for green energy, up from 72% in 2023. Additionally, the willingness to accept no premium for green energy at all has dropped from 28% to 18% between 2023 and 2024, illustrating a decline in price sensitivity when it comes to sustainable energy options.

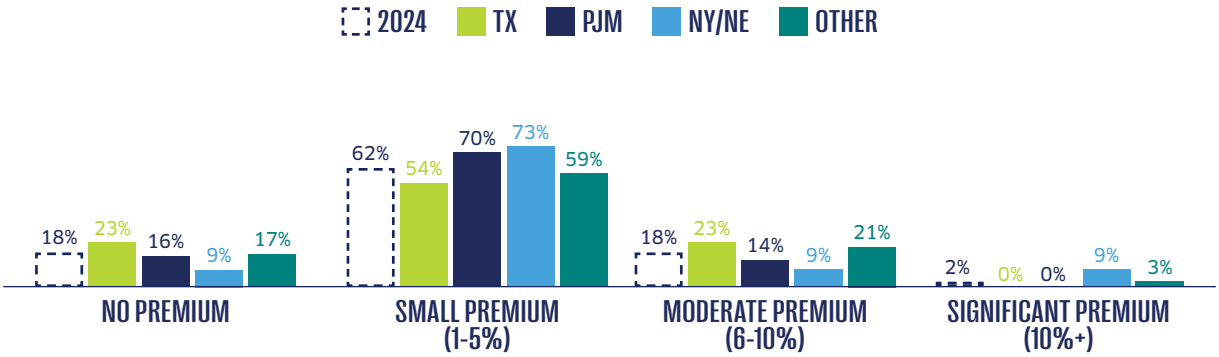
Geography plays a significant role in the concept of green premiums, showcasing varying levels of commitment to renewable energy. In Texas, traditionally known for its oil industry, there's a notable trend toward accepting a slight premium for green energy, reflecting the state's heavy investment in wind and the expanding solar sector. In the PJM region, there's a significant willingness to embrace moderate premiums, while the New York/New England corridor consistently prefers smaller premiums.

03

TREND 03

THE RISE IN GREEN PREMIUM ACCEPTANCE (CONTINUED)

DESCRIBE THE PRICE PREMIUM YOUR CUSTOMERS ARE WILLING TO SPEND FOR RENEWABLE ENERGY SUPPLY.



We are not surprised to see that there is an increasing willingness to pay a premium for clean, green power. In fact, it's driving our core strategy. ENGIE is positioned to address a dramatic shift to planet-friendly power with a focus that few can match. Our goal as a retail supplier is to reach 30 TWh of renewable energy delivered in 2030. We are taking solutions to markets that are not yet open to competition. Our recent acquisition of a leading company specializing in battery storage, Broad Reach Power, was one of the largest M&A activities of 2023 to enable retail customer participation in the journey to net zero.

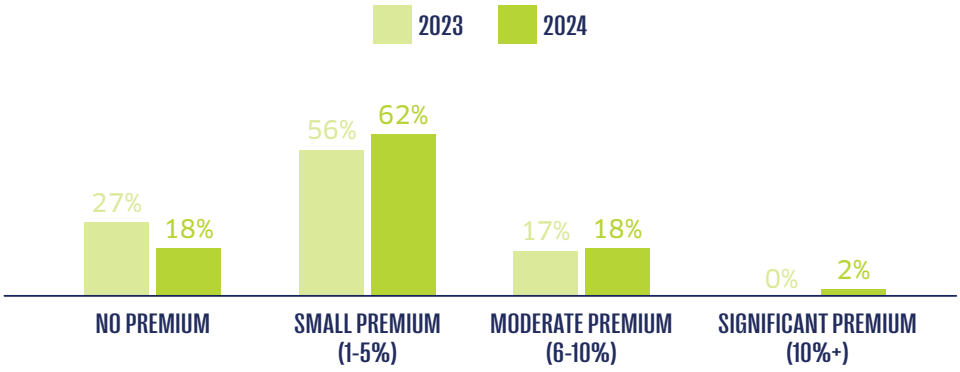
Taymur Bunkheila
DIRECTOR | Energy Solutions and Energy+
ENGIE Resources

TREND 03

THE RISE IN GREEN PREMIUM ACCEPTANCE (CONTINUED)

KEY TAKEAWAYS

- Sixty-two percent of customers are willing to pay a small premium versus 56% in 2023.
- Those willing to pay a moderate premium are holding steady at 18%.
- Eighteen percent are not willing to pay any premium at all, down from 28% in 2023.



IMPLICATIONS

- Energy providers can differentiate themselves in the market by offering competitive green energy options at varied premium levels.
- Policymakers may be encouraged to continue or increase incentives for renewable energy adoptions.
- Energy companies can adjust their strategic positioning and cater to the growing segment of consumers who value sustainability and are willing to pay for it.

OPPORTUNITIES

- There's a growing market for renewable energy products that can command a premium, offering an opportunity for providers to expand their offerings.
- ~~Financial institutions and energy providers can collaborate to create innovative financing models that make paying a premium more attractive~~.

04

TREND 04

FROM POLICY TO ACTION: STRENGTHENING REGULATORY SUPPORT

In the latest census, survey respondents express a notable lack of confidence in regulators' ability to structure markets conducive to fostering three fundamental principles: competition, transparency, and innovation. Despite an overarching sentiment that leans toward a lack of confidence, there is a marked improvement in attitudes, hinting at a growing belief that regulatory support is on an upward trajectory, albeit slowly.

While confidence in regulatory support for competitive markets, transparency, and innovation has not reached optimistic levels, the year-over-year improvements offer a silver lining. Market participants may be witnessing the early stages of a more supportive regulatory approach, providing a foundation upon which to build stronger advocacy and strategic engagement.

YEAR-OVER-YEAR SHIFTS:

COMPETITIVE MARKETS

- **There is a discernible rise in confidence for regulatory support of competitive markets, suggesting that survey participants perceive a shift toward fostering a more competitive market.**

TRANSPARENCY

- **Although transparency remains a significant concern, the increase in the mean score indicates an emerging belief that regulators might be moving toward clearer market operations.**

INNOVATION

- **Innovation continues to be the area of pronounced skepticism, but even here, the year-over-year increase in the mean score signals a cautious hope for improved regulatory backing.**

04

TREND 04

FROM POLICY TO ACTION: STRENGTHENING REGULATORY SUPPORT (CONTINUED)

RESPONDENTS WERE ASKED TO RATE THEIR CONFIDENCE LEVELS ON WHETHER REGULATORS ARE STRUCTURING MARKETS THAT SUPPORT THREE CORE PRINCIPLES: COMPETITION, TRANSPARENCY, AND INNOVATION.

COMPETITION

42% were confident vs. 35% in 2023

TRANSPARENCY

50% were confident vs. 42% in 2023

INNOVATION

50% were confident vs. 51% in 2023

IMPLICATIONS

- Entities within the market may remain tentative in their strategic planning, given the potential for ongoing regulatory uncertainties.
- Organizations might prioritize investments that hedge against regulatory unpredictability, especially in areas of innovation.

OPPORTUNITIES

- The nuanced regulatory environment presents opportunities for consulting and legal services to aid businesses in navigating the complex market structure.
- There is a clear need for better communication between regulators and market participants, highlighting an opportunity for improved educational resources and open communication.
- Firms that offer innovative solutions that comply with regulatory requirements while advancing market principles will find a competitive edge.

05

TREND 05

DRIVING FORCES: ENERGY'S IMPACT ON MERGERS AND ACQUISITIONS

As the dust settles from the tumultuous energy market of 2022, its influence on corporate strategic decisions in 2024 appears to be diminishing. Survey respondents report that energy prices and volatility are less of a disruptive force in deterring or delaying major business initiatives, such as mergers, acquisitions, and expansions, compared to the previous year.

In 2024, a higher percentage of customers (45%) perceived no impact from energy prices and volatility on their major initiatives, an increase from 36% in 2023. This shift indicates a stabilizing effect of the energy market on strategic corporate decision making. Additionally, those reporting some impact from energy considerations on significant business moves dropped from 54% in 2023 to 45% in 2024. This change suggests that the concern over energy costs and unpredictability is no longer as pivotal in stalling or canceling major business transactions and growth plans.

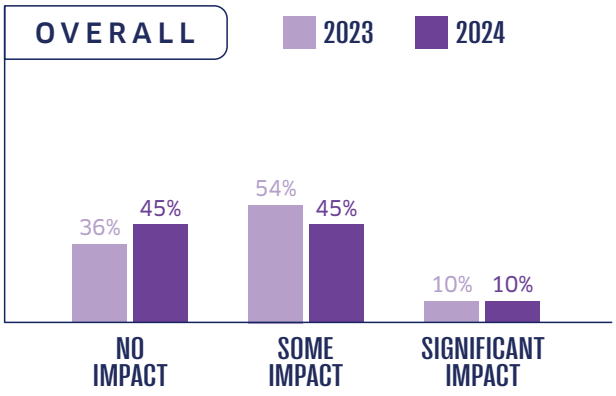
Again, geography and regional variance reflect the importance of local market conditions in shaping the impact of energy prices and volatility on strategic business decisions.

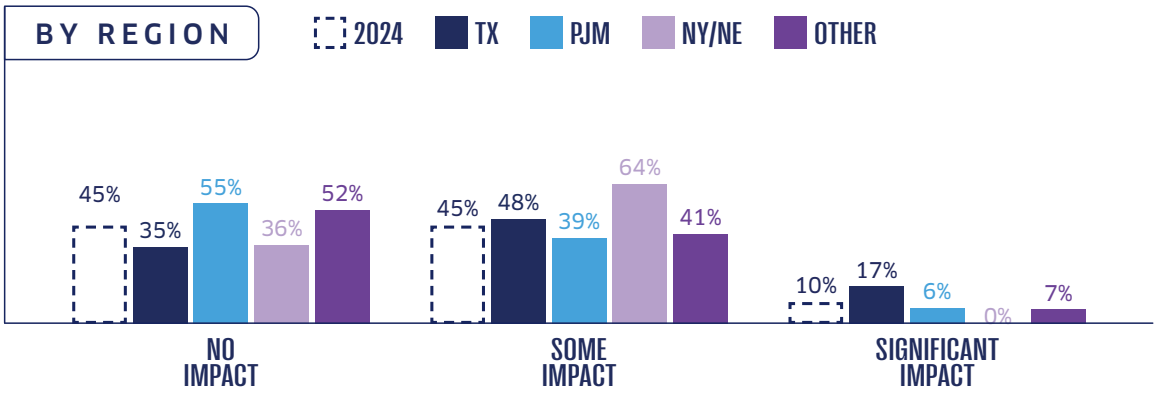
05

TREND 05

DRIVING FORCES: ENERGY'S IMPACT ON MERGERS AND ACQUISITIONS (CONTINUED)

TO WHAT EXTENT ARE ENERGY PRICES AND VOLATILITY CAUSING YOUR CUSTOMERS TO DELAY OR CANCEL MAJOR INITIATIVES, SUCH AS MERGERS, ACQUISITIONS, AND EXPANSIONS?





05

TREND 05

DRIVING FORCES: ENERGY'S IMPACT ON MERGERS AND ACQUISITIONS (CONTINUED)

KEY TAKEAWAYS

- Overall, the landscape in 2024 suggests that while energy prices and volatility continue to play a role in corporate strategy, their influence is diminishing, allowing businesses to resume major initiatives with greater confidence.
- There is a broad shift toward a decreased perception of energy prices and volatility as obstacles to major business initiatives, reflecting a market adapting to a new energy environment.
- A consistent minority of respondents still view energy market conditions as a significant risk factor, indicating the need for targeted strategies to manage this risk.

IMPLICATIONS

- Firms may find more confidence in pursuing major initiatives, given the lessening impact of market volatility on strategic decision-making.
- The ongoing concern among a subset of firms highlights the need for sophisticated energy risk management strategies, particularly for energy-sensitive sectors.
- Improved market stability could foster a more favorable environment for investors, who typically prefer predictable operational landscapes.

OPPORTUNITIES

- There is a clear opportunity for consultancies to assist firms in understanding and mitigating the impact of energy market dynamics.
- Financial products that hedge against energy price volatility may find a receptive market among the 10% of businesses still significantly impacted.

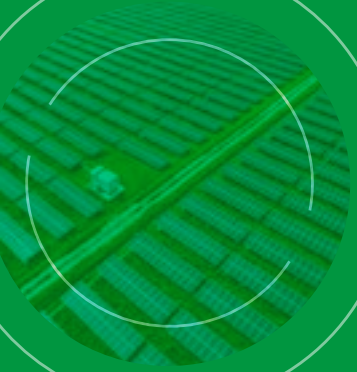
06

TREND 06

FROM DATA TO DECISIONS: EMPOWERING STAKEHOLDERS WITH MARKET INSIGHTS

As big data becomes increasingly important, the ability to process and analyze large volumes of information can provide a competitive edge. Organizations feel that the current market information is inadequate to fully harness the potential of data analytics in energy decision-making. Access to quality market information remains a pivotal aspect of strategic energy decision-making.

In Texas, survey participants express a stronger concern about insufficient data compared to their national counterparts. Given Texas's pivotal role in the nation's energy landscape, this sentiment is particularly pronounced. Forty-eight percent of Texas respondents believe that current market information is inadequate for making informed decisions, surpassing the national dissatisfaction rate by 11%.



06

TREND 06

FROM DATA TO DECISIONS: EMPOWERING STAKEHOLDERS WITH MARKET INSIGHTS (CONTINUED)

KEY TAKEAWAYS

- There is a clear indication that market participants across all regions, especially in Texas, are advocating for more and better energy market information.
- The disparity between regional perceptions points to different needs and expectations based on the specific energy markets and the complexities involved.

IMPLICATIONS

- The lack of sufficient market information could hinder informed decision-making and strategic planning, particularly in complex markets like Texas.
- Improved market information could enhance market efficiency by enabling more competitive and transparent energy decisions.
- Regulators and information providers may need to focus on enhancing the quality, granularity, and accessibility of market data.

OPPORTUNITIES

- There is a huge opportunity for data service providers and analytics firms to fill the information gap, especially in markets expressing a desire for more data.
- Investment in advanced data aggregation and analysis technologies could prove beneficial in regions like Texas, where the demand for comprehensive market insights is high.
- Energy consulting firms could capitalize on this trend by offering specialized market analysis and intelligence that caters to the nuanced needs of different regions.

MOVING FORWARD

ENGIE's annual Business Energy Census Report underscores the dynamic nature of the energy sector and the increasing strategic significance of energy management in businesses of all kinds and sizes.

As the market undergoes continual transformation—shifting toward the adoption and integration of green energy solutions—brokers, managers, and industry experts must be agile and proactive in their responses to remain competitive in an already fierce landscape.

By utilizing the valuable insights and data delivered in this report and collaborating with energy leaders like ENGIE, businesses can navigate the intricate nuances of the energy market. In doing so, they can seize opportunities presented by emerging trends and spearhead innovation in energy management practices.

APPENDIX

SURVEY METHODOLOGY

For this research study, an online survey targeted energy aggregators, brokers, and consultants [ABCs]. These professionals serve as third-party facilitators between customers and their energy suppliers. ERCG collected 133 survey responses from ABCs representing a diverse spectrum of firms in terms of geographical location, revenue, and business model. Respondents included owners/partners, senior executives, and sales and operations managers.

The survey was conducted online over an eight-week span, running from late January to the end of March 2024.

ABOUT ERCG

Energy Research Consulting Group [ERCG] provides business intelligence and consulting services to energy market participants on entry strategies, investment opportunities, and market and policy dynamics. For more information about ERCG's experience, research, and consulting offerings, please visit www.ercg-us.com.

Some of ERCG's most recognized research and consulting products include:

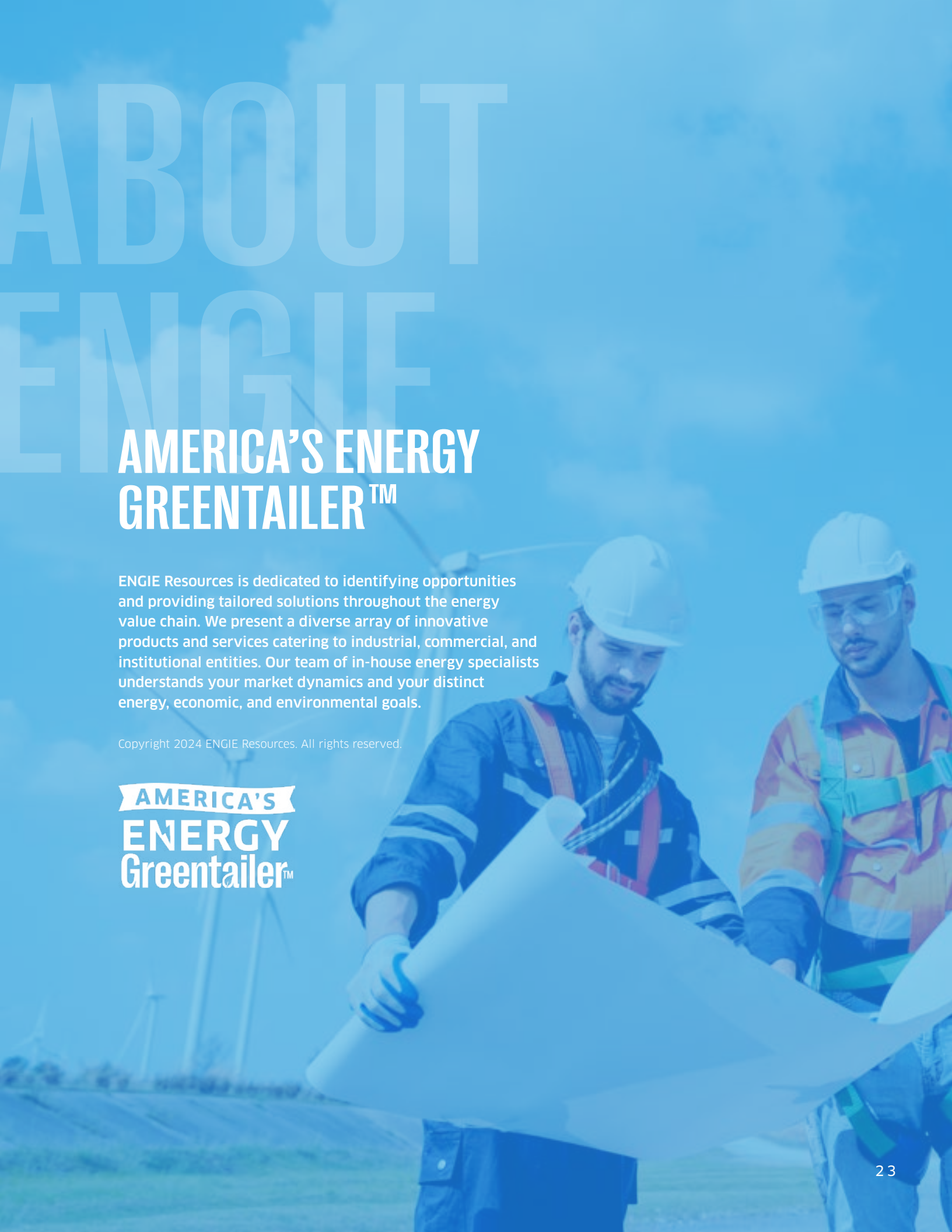
- North American Retail Power ABC Survey (Annual)
- U.S. Retail Gas ABC Survey
- Online Retail Supplier ABC Portal Study
- Utility Price to Compare [PTC] Database (Monthly)
- Supplier and ABC Market Entry Consulting
- Other Custom Research and Consulting

ABOUT ENGIE

AMERICA'S ENERGY GREENTAILER™

ENGIE Resources is dedicated to identifying opportunities and providing tailored solutions throughout the energy value chain. We present a diverse array of innovative products and services catering to industrial, commercial, and institutional entities. Our team of in-house energy specialists understands your market dynamics and your distinct energy, economic, and environmental goals.

AMERICA'S ENERGY Greentailer™



LDV Total Sales of PEV and HEV by Month (updated through May 2024)

	PEV			
Month	BEV	PHEV	HEV	Total LDV
Dec-10	19	326	28,592	1,144,840
Jan-11	103	321	19,540	819,938
Feb-11	83	281	23,306	993,535
Mar-11	298	608	34,533	1,246,668
Apr-11	573	493	25,602	1,157,928
May-11	1,150	481	17,419	1,061,841
Jun-11	1,708	561	12,655	1,053,414
Jul-11	932	125	19,621	1,059,730
Aug-11	1,363	302	21,181	1,072,379
Sep-11	1,031	723	17,625	1,053,761
Oct-11	866	1,108	20,057	1,021,185
Nov-11	773	1,139	26,110	994,786
Dec-11	1,212	1,529	31,100	1,243,784
Jan-12	824	603	21,779	913,284
Feb-12	639	1,023	36,222	1,149,432
Mar-12	961	3,200	48,206	1,404,623
Apr-12	479	3,116	39,901	1,184,567
May-12	612	2,766	37,184	1,334,642
Jun-12	863	2,455	34,558	1,285,499
Jul-12	479	2,537	31,611	1,153,759
Aug-12	866	3,878	38,369	1,285,292
Sep-12	1,306	4,503	34,836	1,188,899
Oct-12	2,240	4,994	33,290	1,092,294
Nov-12	2,614	4,544	35,002	1,143,916
Dec-12	2,704	4,965	43,690	1,356,070
Jan-13	2,372	2,354	34,611	1,043,238
Feb-13	2,666	2,789	40,173	1,192,299
Mar-13	4,553	3,079	46,327	1,453,038
Apr-13	4,403	2,735	42,804	1,285,446
May-13	4,545	3,209	48,796	1,443,311
Jun-13	4,573	4,169	44,924	1,403,121
Jul-13	3,943	3,499	45,494	1,313,844
Aug-13	4,956	6,407	53,020	1,501,294
Sep-13	3,650	4,477	33,576	1,137,206
Oct-13	3,733	6,367	33,570	1,206,182
Nov-13	3,930	4,903	36,085	1,243,852
Dec-13	4,770	5,020	36,155	1,358,734
Jan-14	2,971	2,934	27,555	1,011,187
Feb-14	3,324	3,721	30,561	1,192,467
Mar-14	4,578	4,594	43,790	1,537,270
Apr-14	4,187	4,718	39,430	1,391,303
May-14	5,802	6,651	52,227	1,609,678

Note:

PEV Plug-in Electric Vehicles

BEV Battery Electric Vehicles

PHEV Plug-in Hybrid Electric Vehicles

HEV Hybrid Electric Vehicles

LDV Light-Duty Vehicles (car & light truck, including all powertrain types)

Jun-14	4,982	6,511	39,225	1,421,963
Jul-14	5,693	5,740	44,488	1,435,805
Aug-14	6,483	5,920	48,208	1,586,374
Sep-14	5,983	3,357	31,385	1,245,786
Oct-14	5,927	3,735	30,892	1,281,132
Nov-14	6,176	3,609	31,109	1,302,655
Dec-14	7,419	3,867	33,302	1,507,928
Jan-15	3,977	2,113	25,312	1,152,480
Feb-15	4,435	2,589	27,038	1,258,570
Mar-15	5,715	3,020	33,654	1,545,710
Apr-15	6,037	2,962	32,379	1,455,242
May-15	7,057	4,416	40,257	1,634,952
Jun-15	6,975	3,409	32,330	1,476,472
Jul-15	5,143	3,836	35,666	1,510,941
Aug-15	5,224	3,786	37,633	1,577,179
Sep-15	6,704	3,038	32,106	1,442,113
Oct-15	5,740	4,081	30,485	1,455,153
Nov-15	6,103	4,275	25,153	1,318,210
Dec-15	7,954	5,483	32,387	1,641,913
Jan-16	3,576	3,137	20,967	1,148,087
Feb-16	4,424	3,909	24,371	1,343,922
Mar-16	7,115	5,319	28,756	1,595,065
Apr-16	6,266	5,842	28,988	1,506,431
May-16	6,526	5,619	30,573	1,535,670
Jun-16	7,678	6,113	27,681	1,512,996
Jul-16	7,762	6,525	32,633	1,521,245
Aug-16	8,601	6,372	32,206	1,511,405
Sep-16	10,032	6,037	31,286	1,434,483
Oct-16	5,408	5,943	26,484	1,370,721
Nov-16	6,266	7,858	28,497	1,378,635
Dec-16	13,077	10,211	34,507	1,688,368
Jan-17	5,398	5,669	22,630	1,142,568
Feb-17	5,846	6,247	28,355	1,333,128
Mar-17	10,171	7,384	32,012	1,554,998
Apr-17	5,961	7,300	30,949	1,426,883
May-17	8,038	8,645	33,729	1,519,793
Jun-17	8,814	7,787	30,073	1,474,970
Jul-17	7,802	7,407	29,050	1,416,743
Aug-17	8,850	7,668	34,850	1,484,826
Sep-17	13,421	7,719	37,319	1,525,522
Oct-17	6,792	6,665	29,451	1,356,789
Nov-17	8,435	8,408	30,075	1,399,640
Dec-17	14,959	10,289	32,187	1,605,527
Jan-18	9,154	6,241	21,718	1,151,011
Feb-18	6,653	8,783	24,609	1,293,763
Mar-18	11,060	11,601	28,165	1,647,090

Apr-18	12,794	9,931	24,827	1,353,546
May-18	12,232	11,403	31,602	1,586,493
Jun-18	12,997	10,485	31,038	1,543,716
Jul-18	15,387	9,269	28,203	1,362,964
Aug-18	20,222	10,132	30,182	1,482,215
Sep-18	24,163	10,777	31,985	1,432,136
Oct-18	29,937	9,937	28,614	1,360,281
Nov-18	24,089	11,580	27,453	1,382,553
Dec-18	28,374	13,744	29,753	1,617,778
Jan-19	26,942	6,010	19,153	1,133,157
Feb-19	10,644	6,610	22,730	1,251,513
Mar-19	17,281	8,074	30,926	1,598,811
Apr-19	20,113	5,908	33,082	1,326,555
May-19	18,012	7,949	44,162	1,581,479
Jun-19	23,421	7,999	39,247	1,509,674
Jul-19	23,559	7,197	36,341	1,396,460
Aug-19	18,864	8,433	42,830	1,638,722
Sep-19	21,812	5,816	29,848	1,267,150
Oct-19	23,072	6,388	32,457	1,333,995
Nov-19	11,421	7,733	32,962	1,403,153
Dec-19	18,681	7,674	35,706	1,512,243
Jan-20	26,391	5,104	27,166	1,136,560
Feb-20	11,151	6,111	32,309	1,350,570
Mar-20	18,234	3,481	23,591	989,954
Apr-20	8,058	2,015	14,268	715,322
May-20	8,626	3,911	27,740	1,119,089
Jun-20	16,809	4,206	41,590	1,101,169
Jul-20	23,075	5,228	43,738	1,236,643
Aug-20	17,291	6,478	42,191	1,318,070
Sep-20	28,101	6,670	43,293	1,341,099
Oct-20	29,959	7,755	47,611	1,358,922
Nov-20	22,225	7,369	47,724	1,199,137
Dec-20	28,620	10,721	63,846	1,605,497
Jan-21	25,103	7,463	46,843	1,106,286
Feb-21	26,215	9,046	54,045	1,193,776
Mar-21	40,755	12,261	78,123	1,597,152
Apr-21	33,547	18,604	76,397	1,518,415
May-21	29,796	20,807	82,511	1,570,313
Jun-21	45,913	16,648	65,960	1,302,213
Jul-21	42,013	15,669	74,298	1,280,803
Aug-21	35,499	14,067	67,976	1,092,661
Sep-21	42,020	12,554	60,102	1,015,935
Oct-21	42,485	18,275	63,482	1,051,015
Nov-21	46,687	14,170	59,326	1,014,411
Dec-21	49,441	16,553	69,983	1,203,993
Jan-22	42,780	11,983	63,093	991,573

Feb-22	46,859	12,563	58,175	1,045,624
Mar-22	64,160	16,200	76,683	1,257,821
Apr-22	52,537	17,875	71,849	1,236,432
May-22	52,502	15,263	68,737	1,108,063
Jun-22	74,262	14,838	61,039	1,143,820
Jul-22	64,310	13,932	59,229	1,126,523
Aug-22	59,836	13,797	58,869	1,134,265
Sep-22	69,811	13,415	55,892	1,124,297
Oct-22	71,739	17,603	66,661	1,181,540
Nov-22	69,924	16,183	57,086	1,135,484
Dec-22	79,262	19,759	69,099	1,268,897
Jan-23	72,944	15,593	60,069	1,046,919
Feb-23	81,158	17,789	66,320	1,138,756
Mar-23	92,077	21,397	94,289	1,374,992
Apr-23	92,880	24,165	100,528	1,357,844
May-23	95,898	25,125	103,832	1,363,818
Jun-23	100,745	23,181	100,762	1,368,178
Jul-23	99,259	23,840	103,757	1,298,913
Aug-23	92,277	28,148	107,325	1,316,366
Sep-23	101,719	29,632	109,269	1,331,167
Oct-23	90,509	22,037	103,799	1,193,974
Nov-23	102,323	24,530	108,549	1,235,583
Dec-23	121,647	41,121	117,098	1,458,853
Jan-24	81,317	25,759	91,929	1,066,907
Feb-24	80,715	28,610	105,919	1,239,614
Mar-24	93,468	35,187	123,870	1,436,680
Apr-24	92,829	27,671	118,822	1,317,370
May-24	98,797	26,124	138,118	1,429,028

PEV Sales by Size (updated through May 2024)

Size	2024 Sales	% of PEVs
Two seater	0	0.0%
Minicompa	0	0.0%
Subcompa	2,644	0.4%
Compact	10,584	1.8%
Midsize	70,305	11.9%
Large	40,109	6.8%
Small Stati	44,005	7.5%
Standard S	120,741	20.4%
Minivan	17,740	3.0%
Small SUV	256,062	43.4%
Pickup	28,287	4.79%
Total	590,477	100.0%

https://www.beehive.govt.nz/release/agriculture-come-out-ets
11 JUNE 2024

Agriculture to come out of the ETS

HON TODD MCCLAY

HON SIMON WATTS

HON ANDREW HOGGARD

HON MARK PATTERSON

The Government will deliver on its election commitment to take agriculture out of the New Zealand Emissions Trading Scheme (NZ ETS) and will establish a new Pastoral Sector Group to constructively tackle biogenic methane, Coalition Government Agriculture and Climate Change Ministers say.

Agriculture Minister Todd McClay says New Zealand farmers are some of the world's most carbon-efficient food producers.

"The Government is committed to meeting our climate change obligations without shutting down Kiwi farms. It doesn't make sense to send jobs and production overseas, while less carbon-efficient countries produce the food the world needs.

"That is why we are focused on finding practical tools and technology for our farmers to reduce their emissions in a way that won't reduce production or exports.

"Later this month, we will introduce legislation amending the Climate Change Response Act 2002 (the CCRA) to ensure agriculture does not enter the NZ ETS."

The amendment to the CCRA will remove agriculture, animal processors and fertiliser companies from the ETS before 1 January 2025. For these organisations, their emissions associated with non-farm activities will continue to be covered by the NZ ETS.

He Waka Eke Noa to be disbanded

"It is now clear that Labour's He Waka Eke Noa process has failed and is no longer tenable.

"The primary sector worked collaboratively for years, however Labour rejected many of its proposals compromising consensus, relationships, and confidence across rural New Zealand. To restore confidence, Cabinet has decided to formally disestablish He Waka Eke Noa from today.

"It's time for a fresh start on how we engage with farmers and processors to work on biogenic methane."

To do this, the Government will engage directly with levy bodies and sector organisations that represent the pastoral sector - DairyNZ, Beef + Lamb New Zealand, Deer Industry New Zealand, Federated Farmers, Dairy Companies Association of New Zealand, and the Meat Industry

Association. Terms of reference for the Pasture Sector Group will be developed and agreed with the group," Mr McClay says.

Investing in solutions

The Government is investing further in R&D to develop practical tools to help lower on-farm emissions while protecting production.

Climate Change Minister Simon Watts says the Government has committed $400 million over the next four years to accelerate the commercialisation of tools and technology to reduce on-farm emissions.

"As part of our commitment to the sector, we are scaling up funding for the New Zealand Agricultural Greenhouse Gas Research Centre where an additional $50.5 million will be invested over the next five years in projects to find solutions to reduce the sectors emissions. These projects include the development of a methane vaccine; a project to breed lower emissions cattle; and accelerating the work on methane and nitrous oxide inhibitors.

"These investments signal the Governments support for farmers while ensuring New Zealand meets its international climate change obligations," Mr Watts says.

Associate Minister of Agriculture Andrew Hoggard says it's critical that our domestic efforts to cut emissions do not harm our local agricultural sector.

"Agriculture is the backbone of our economy and maintaining its profitability is pivotal to boosting our GDP, raising the standard of living, and providing the high-quality public services Kiwis deserve," Mr Hoggard says.

Associate Minister of Agriculture Mark Patterson says by working closely with the sector we will ensure consumer expectations are met and that we continue to lift New Zealand's sustainability credentials.

"This Government will future-proof our export growth to ensure the success of dairy and sheep and beef farmers who produce high quality protein, which is sought after by customers all over the world," Mr Patterson says.

Agriculture Minister Todd McClay says the coalition Government is investing heavily in research and development to provide farmers tools to reduce methane, not productivity.

NEW ZEALAND

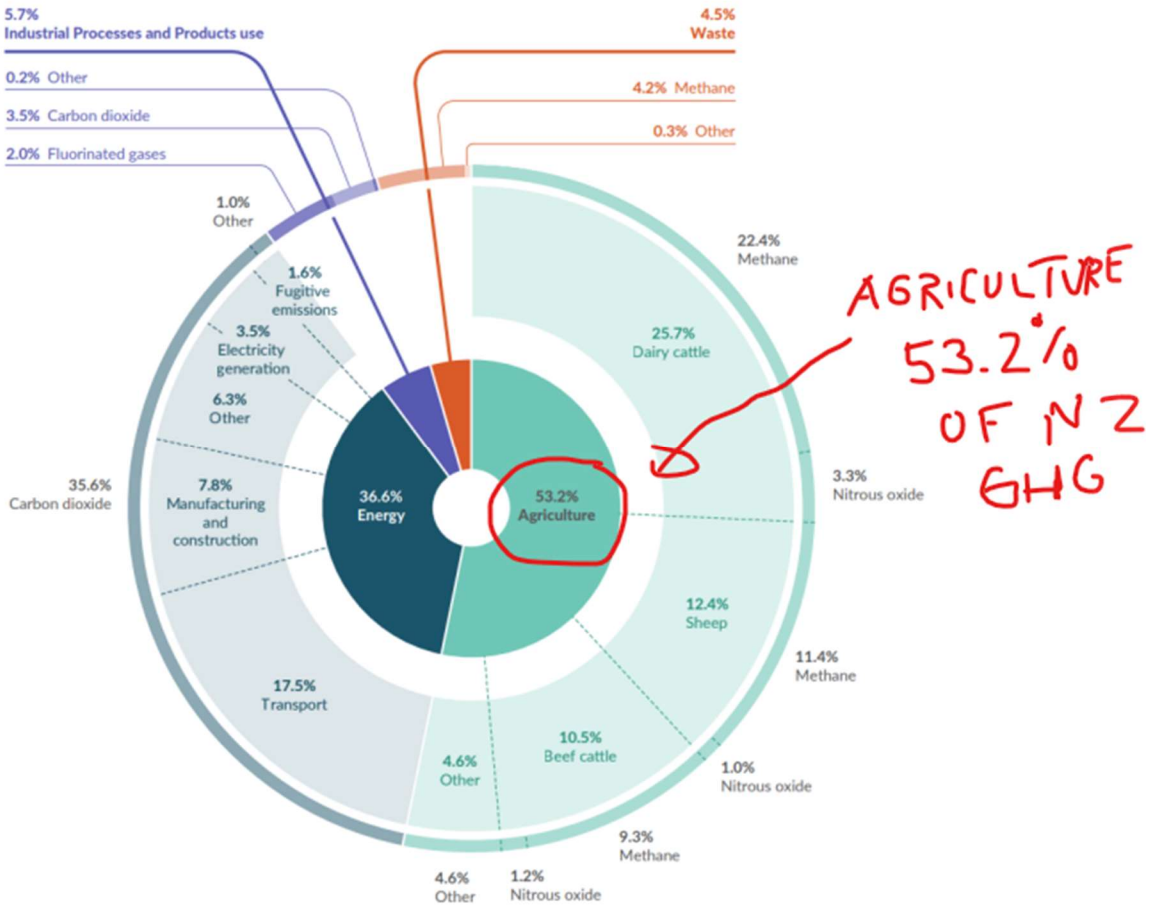
Gross emissions peaked in 2006 and have been declining since 2019

In 2022, Aotearoa New Zealand's gross emissions were 78.4 million tonnes of carbon dioxide equivalent (Mt CO_2-e). This is a 14 per cent increase from emissions in 1990 (the base year for United Nations Framework Convention on Climate Change (UNFCCC) reporting).

The five emission sources that contributed most to the increase since 1990 were:

- **enteric fermentation from dairy cattle**, largely due to an increase in the dairy cattle population (methane) (an increase of 9.0 Mt CO_2-e)
- **road transportation**, due to traffic growth (carbon dioxide) (an increase of 5.7 Mt CO_2-e)
- **agricultural soils,** due to increased fertiliser use (nitrous oxide) (an increase of 1.7 Mt CO_2-e)
- **fluorinated gases,** mainly due to increased use in refrigeration and air-conditioning systems as replacement for ozone-depleting substances (an increase of 1.5 Mt CO_2-e)
- **fuel use in manufacturing and construction**, due to increased economic activity leading to increased production (carbon dioxide) (an increase of 1.3 Mt CO_2-e).

Figure 2: Gross greenhouse gas emissions percentages in 2022 by sector, category and gas type



AGRICULTURE 53.2% OF NZ GHG

https://www.beehive.govt.nz/release/government-reverse-oil-and-gas-exploration-ban
9 JUNE 2024

Government to reverse oil and gas exploration ban

HON SHANE JONES

Resources

Removing the ban on petroleum exploration beyond onshore Taranaki is part of a suite of proposed amendments to the Crown Minerals Act to deal with the energy security challenges posed by rapidly declining natural gas reserves, Resources Minister Shane Jones says.

“Natural gas is critical to keeping our lights on and our economy running, especially during peak electricity demand and when generation dips because of more intermittent sources like wind, solar and hydro,” Mr Jones says.

“When the exploration ban was introduced by the previous government in 2018, it not only halted the exploration needed to identify new sources, but it also shrank investment in further development of our known gas fields which sustain our current levels of use.

“Without this investment, we are now in a situation where our annual natural gas production is expected to peak this year and undergo a sustained decline, meaning we have a security of supply issue barrelling towards us.”

Rebuilding investor confidence in New Zealand’s petroleum sector will require more than removing the ban. The Coalition Government is proposing further changes, agreed by Cabinet, to re-establish New Zealand as an attractive and secure destination for international investment. These changes were agreed in the New Zealand First and Act coalition agreements with the National Party.

“Our job as the Government is to provide the right policy settings to enable the sector to get to work, and that’s exactly what we are aiming to achieve through these amendments,” Mr Jones says.

“Some of our current settings are a barrier to attracting investment in exploration and production because they are overly costly and onerous on industry. Some obligations lack necessary flexibility, and compliance obligations are uncertain and unclear.

“As well as removing the ban, we are proposing changes to the way petroleum exploration applications are tendered and allocated, aligning the petroleum decommissioning regime with international best practice, and improving regulatory efficiency.”

New Zealand cannot ignore the significant economic contributions the petroleum and resources sector delivers, and the opportunities further strategic development represents.

“Our petroleum and minerals sectors contributed $1.9 billion to GDP in 2020-21 and $236 million in Crown revenue in 2022-23. In 2023 mining employed around 6000 people, the majority of which are based in regional communities,” Mr Jones says.

“I want a considered discussion about how we use our natural resources to improve the security and affordability of energy and resources supplies, stimulate regional economic development opportunities, and increase New Zealand’s self-sufficiency to protect against volatile international markets.”

The Crown Minerals Amendment Bill will be the latest piece of legislative reform introduced by the Government aimed at cutting red tape to enable crucial resources and infrastructure projects across New Zealand, and benefits to flow to communities. The Bill will be introduced to Parliament in the second half of 2024.

For more information, visit 2024 Proposed amendments to the Crown Minerals Act 1991 | Ministry of Business, Innovation & Employment (mbie.govt.nz)

Editors' note:

The Crown Minerals Act Amendment Bill proposes:

- Reversing the 2018 ban on new petroleum exploration outside onshore Taranaki.
- Removing the 2018 restriction preventing new petroleum permit-holders from accessing some Taranaki conservation land for petroleum activities other than minimum impact activities. Conservation land protected by Schedule 4 of the CMA, including Mount Taranaki, would still have the same protections in place. This change ensures conservation land across New Zealand is treated consistently.
- Changes to how petroleum exploration permits are allocated. Currently permits are allocated through a competitive tender process. The bill proposes allowing for a choice between a tender and a non-tender (called priority in time) method.
- Changes to the petroleum decommissioning requirements to align with international best practice, and better balance regulatory burden and risk. Specifically:
    - Technical changes to financial securities requirements, the primary tool to manage the risk of a permit-holder failing to carry out or fund decommissioning. These changes will make financial securities more flexible to allow industry to set aside this money in a way that is cost-efficient and best suit the circumstances.
    - Changes to trailing liability which allows the Crown to go back to previous permit-holders and make them decommission or recover the money for decommissioning. It is not proposed to remove trailing liability but limiting it to the most recent transferor, providing greater certainty to previous permit-holders.
    - Post-decommissioning liability remains on a permit-holder who decommissioned if something goes wrong after they have plugged and abandoned a well or left infrastructure in situ. This is a change from the current requirement to provide a payment or financial security for post-decommissioning liabilities, which sought to quantify the likely risk and cost in the future.
- Other changes to provide important signals to the industry that New Zealand is open for business, including reintroducing the term 'promote' into the purpose statement of the Act, giving the Government the mandate to actively promote prospecting, exploration and mining of minerals.
- Introducing a new tier of mineral permitting that will make it easier for people to undertake small-scale non-commercial gold mining activity, and
- Other technical legislative changes to ensure processes are working as intended, including fixing inconsistencies of terms and drafting errors.

The Asset Management Industry
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June 13, 2024

Money Market Fund Assets

Washington, DC; June 13, 2024—Total money market fund assets[1] increased by $28.02 billion to $6.12 trillion for the week ended Wednesday, June 12, the Investment Company Institute reported today. Among taxable money market funds, government funds[2] increased by $25.14 billion and prime funds increased by $4.92 billion. Tax-exempt money market funds decreased by $2.03 billion.

Assets of Money Market Funds

Billions of dollars

	6/12/2024	6/5/2024	$ Change*	5/29/2024
Government	4,946.19	4,921.05	25.14	4,904.68
Retail	1,560.07	1,560.04	0.03	1,551.08
Institutional	3,386.12	3,361.01	25.11	3,353.60
Prime	1,045.80	1,040.88	4.92	1,035.61
Retail	771.79	769.33	2.46	765.14
Institutional	274.01	271.55	2.46	270.47
Tax-exempt	128.67	130.70	-2.03	129.21
Retail	117.02	118.66	-1.65	117.56
Institutional	11.66	12.04	-0.39	11.65
Total	**6,120.66**	**6,092.64**	**28.02**	**6,069.49**
Retail	**2,448.87**	**2,448.03**	**0.84**	**2,433.78**
Institutional	**3,671.79**	**3,644.61**	**27.18**	**3,635.71**

* Change in money market fund assets is primarily driven by flows and can be used as a proxy for net new cash flows.

Note: Components may not add to the total or compute to the $ change due to rounding.

Retail:[3] Assets of retail money market funds increased by $843 million to $2.45 trillion. Among retail funds, government money market fund assets increased by $29 million to $1.56 trillion, prime money market fund assets increased by $2.46 billion to $771.79

billion, and tax-exempt fund assets decreased by $1.65 billion to $117.02 billion.

Institutional:[3] Assets of institutional money market funds increased by $27.18 billion to $3.67 trillion. Among institutional funds, government money market fund assets increased by $25.11 billion to $3.39 trillion, prime money market fund assets increased by $2.46 billion to $274.01 billion, and tax-exempt fund assets decreased by $385 million to $11.66 billion.

ICI reports money market fund assets to the Federal Reserve each week. Data for previous weeks reflect revisions due to data adjustments, reclassifications, and changes in the number of funds reporting. Weekly money market assets for the last 20 weeks are available on the ICI website.

If you have any questions or would like to request additional comments on this or data on another topic, please contact a member of ICI's Media Relations team at media@ici.org.

ENDNOTES

[1] Data for exchange-traded funds (ETFs) and funds that invest primarily in other mutual funds were excluded from the series.

[2] Government money market funds, formerly referred to as "Treasury (including agency and repo)," are money market funds that invest in cash, securities issued by the US Treasury (including repurchase agreements collateralized fully by US Treasury securities), and securities issued or guaranteed by the US government or its agencies, and repurchase agreements for those securities.

[3] ICI classifies funds and share classes as *institutional* or *retail* based on language in the fund prospectus. Retail funds are sold primarily to the general public and include funds sold predominantly to employer-sponsored retirement plans and variable annuities. Institutional funds are sold primarily to institutional investors or institutional accounts purchased by or through an institution such as an employer, trustee, or fiduciary on behalf of its clients, employees, or owners. For a detailed description of ICI classifications, please see ICI Open-End Investment Objective Definitions.

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Consumer Checkpoint

The kids are alright (for now)

11 June 2024

Key takeaways

- Consumer spending momentum continues to appear soft but stable. According to Bank of America internal data, total card spending per household was up 0.7% year-over-year (YoY) in May, following the 1.0% YoY increase in April.
- The gap between older and younger generations' spending growth has narrowed, which could reflect the fading impact of the 2023 cost-of-living adjustment (COLA) on social security benefits, alongside strong after-tax wage growth for younger cohorts.
- That said, Gen Z and younger Millennials' share of spending on discretionary items is declining potentially due to increasing spending commitments as they get older. However, higher costs in non-discretionary services is also a headwind, in our view. To counter these pressures we find some evidence that the younger generations are 'trading down' in grocery shopping and restaurant decisions.
- The strength in the younger generations' labor market, including wages and salaries growth, has allowed a majority to navigate these challenges, but there are signs of increased financial pressures for some.

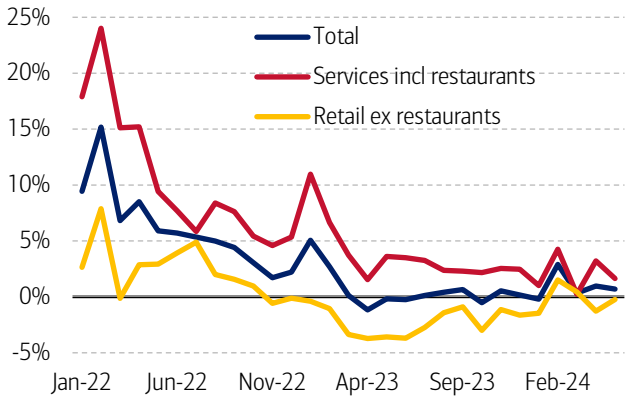
Consumer Checkpoint is a regular publication from Bank of America Institute. It aims to provide a holistic and real-time estimate of US consumers' spending and their financial well-being, leveraging the depth and breadth of Bank of America proprietary data. Such data is not intended to be reflective or indicative of, and should not be relied upon as, the results of operations, financial conditions or performance of Bank of America.

Spending has its generational differences

Bank of America aggregated credit and debit card spending per household rose 0.7% year-over-year (YoY) in May, following the 1.0% YoY rise in April. Exhibit 1 illustrates that overall consumer spending momentum has largely remained stable this year. In May, retail spending growth, though still negative, reversed course to trend upwards, and while services spending growth eased back in May, it remained positive. On a monthly seasonally-adjusted (SA) basis, total card spending per household fell 0.9% month-over-month (MoM) in May, following the 1.3% MoM increase in April.

Exhibit 1: Bank of America credit and debit card spending per household increased by 0.7% YoY in May

Total credit and debit card spending per household, based on Bank of America card data (%YoY, monthly)



Source: Bank of America internal data

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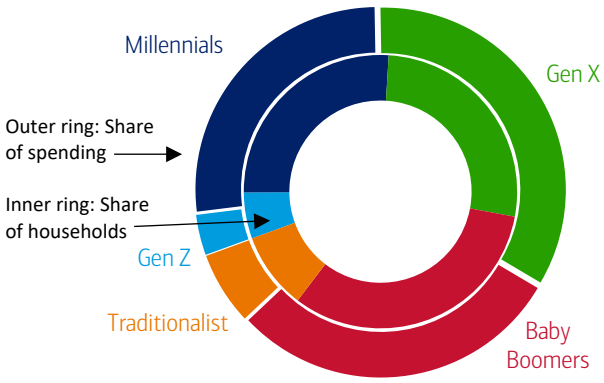
Exhibit 2: Gen Z and Millennials account for around 30% of US total consumer spending and 32% of households in 2022, while Gen X produces 34% of spend with only 27% of households

Share of annual expenditure and share of households by generation (2022, %)



Source: Bureau of Labor Statistics (BLS)

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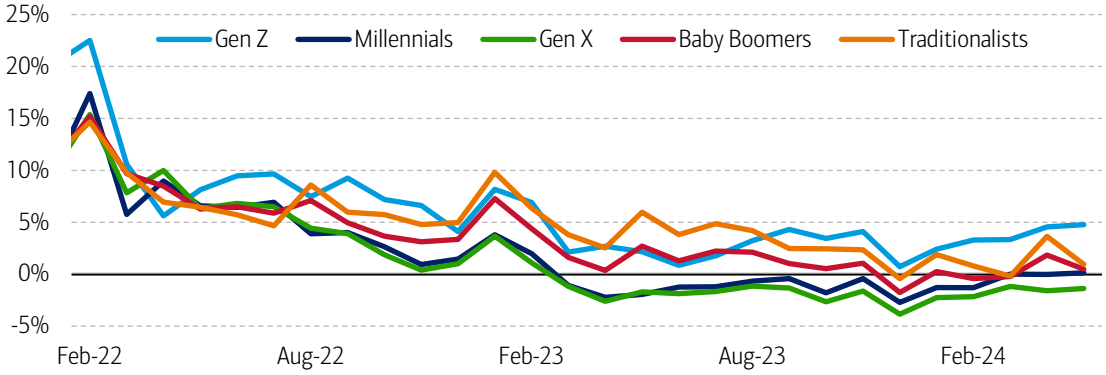
Who drives overall spending? According to data from the Bureau of Labor Statistics (BLS), the 'younger generations' – Gen Z and Millennials together – accounted for around 32% of households and 30% of consumer expenditure as of 2022, while Gen X made up only 27% of households, but accounted for around a third of spending. 'Older generations' – Baby Boomers and Traditionalists – made up over 40% of households but were around 36% of spending.

Looking at Bank of America aggregated credit and debit card data, it appears there has been some slowdown in older generations' spending growth so far this year (Exhibit 3). As we discussed last October, (see: Will silver spenders continue to outpace the young?), older generations' spending growth in 2023 was likely boosted by a large (8.7%) cost-of-living-adjustment (COLA) in social security benefits. The 2024 COLA adjustment was a much smaller 3.2%, meaning that part of the spending momentum from this source has likely waned.

Exhibit 3: In the past few months, older generations' spending growth has begun to cool
Card spending per household by generation (monthly, %YoY)



Source: Bank of America internal data

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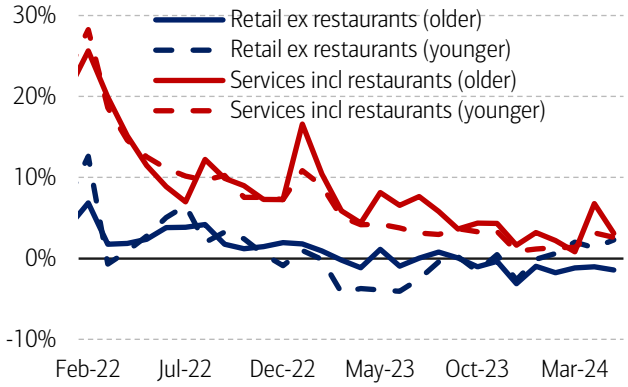
Interestingly, Gen X spending growth is not only the weakest of all the generations, but the only generation that saw negative spending growth in May, which likely reflects both this cohort's relatively weaker wage growth (Exhibit 5) compared to younger generations, as well as higher costs in many recurring non-discretionary services, such as property insurance, commonly associated with Gen X's current life-stage. Conversely, the spending growth of Gen Z and Millennials appears to have picked up in May. Their spending growth has tended to be weaker than older generations on services, but stronger in retail (Exhibit 4).

Exhibit 4: Among younger generations, retail spending growth is beginning to rise while services spending growth is slowing
Card spending per household by generation (monthly, %YoY)



Source: Bank of America internal data **Note:** Older generations include Traditionalists and Baby Boomers. Younger generations include Gen Z and Millennials.

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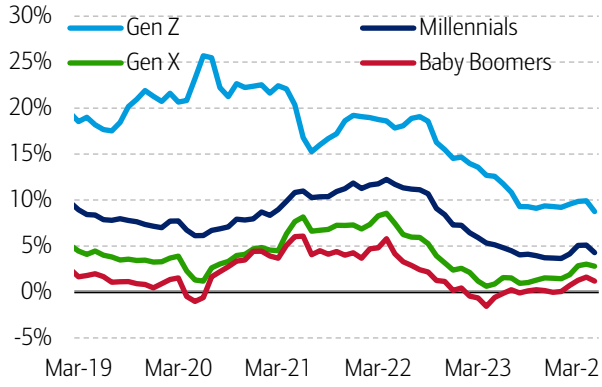
Exhibit 5: Millennials and Gen Z have experienced stronger wage growth than older generations for the last four years
After-tax wage and salary growth by generation (3-month moving average, %YoY)



Source: Bank of America internal data

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According to Bank of America consumer deposit data, we saw an easing in after-tax wage growth across all age cohorts in May (Exhibit 5), but it remains to be seen if this is the start of a downward trend or noise; the May Bureau of Labor Statistics (BLS) data actually showed a pick-up in hourly pay growth to 4.1% YoY from 3.9% YoY in April.

More broadly, the strong labor market has been a particular boon for the young in recent years, reflected in significantly stronger after-tax wage growth for Gen Z and Millennials compared to other generations. While it does appear the degree of outperformance of younger generations' wage growth is past its peak, it remains significant. For example, the after-tax wage

growth of Millennials was over 5 percentage points (pp) stronger than that of Gen X at the end of 2022, while in May 2024 this gap was 1.5pp. For Gen Z households, strong wage growth is also partially a life-stage story due to growth from the younger cohort within this generation entering the full-time labor market.

Is "trading down" trending?

While younger generations card spending growth appears to have picked up, we find across a broader range of payment channels that their share of spending on discretionary spending is declining.

Using Bank of America internal data across payment channels (including ACH, as well as card payments), we construct a broader measure of necessity spending that includes not only necessity spending on credit and debit cards, but also non-discretionary services such as insurance and mortgage payments made across broader payment channels.

Exhibit 6 shows that as of May, older Millennials, Gen X, and Baby Boomers have the lowest shares of discretionary spending, at nearly 50%. However, while Gen Z (61%) and younger Millennials' (52%) shares of discretionary spending are higher, they are declining and fast approaching their older counterparts. This is despite their after-tax wage growth being notably ahead of their credit and debit card spending growth, which indicates these younger households may not be able to dedicate their extra earnings to discretionary spending.

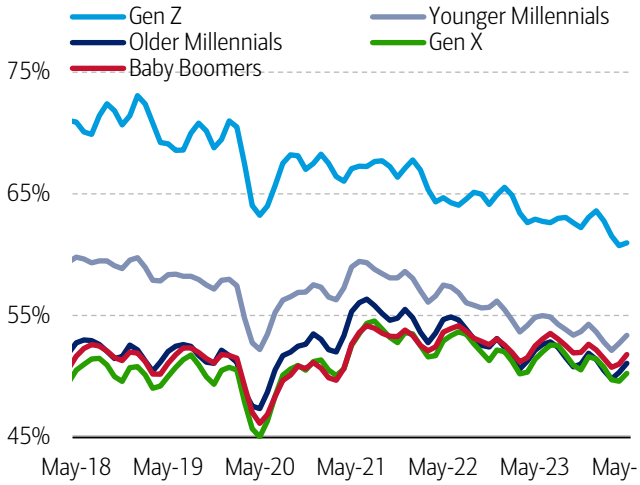
This convergence is likely part life stage-related, with younger consumers taking on more financial responsibilities such as buying a house or car. In a recent publication we noted that younger generations have strong payments growth for housing and autos.

Gen Z and younger Millennials also face pressure on their necessity spending in the form of rising housing and auto costs. Further to that point, in another recent piece, we found that Gen Z and Millennials have recently been "trading down" from premium or standard-tier grocery stores to value-tier grocers, whereas Gen X and Baby Boomers have long been value shoppers.

Groceries are not the only sector where this is occurring; our data also shows that these generations are also dining out less and staying in more. Looking at the ratio of average household grocery spending to average household restaurant spending, Exhibit 7 suggests that while Gen Z and Millennials tend to dine out more than Baby Boomers and Gen Xers on a monthly basis, they are beginning to "trade down" to eating at home more often as well.

Exhibit 6: Older Millennials, Gen X, and Baby Boomers have lower percentage shares of discretionary spending, but younger Millennials and Gen Z's levels are quickly converging with their older counterparts

Discretionary outflows as a percentage share of total outflows across payments by age generation (3-month moving average, %)



Source: Bank of America internal data

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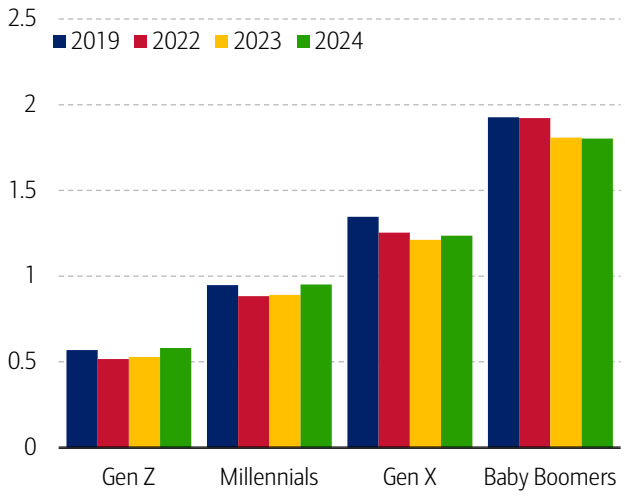
Exhibit 7: The ratio of average household grocery spending to average household restaurant spending is higher for Gen X and Baby Boomers, but declining, while Gen Z and Millennials' ratios have increased

The ratio of average household grocery spending compared to average household restaurant spending by age generation (Jan-May, average ratio in which values > 1 imply more grocery than restaurant spending)



Source: Bank of America internal data

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Signs of credit stress for younger consumers?

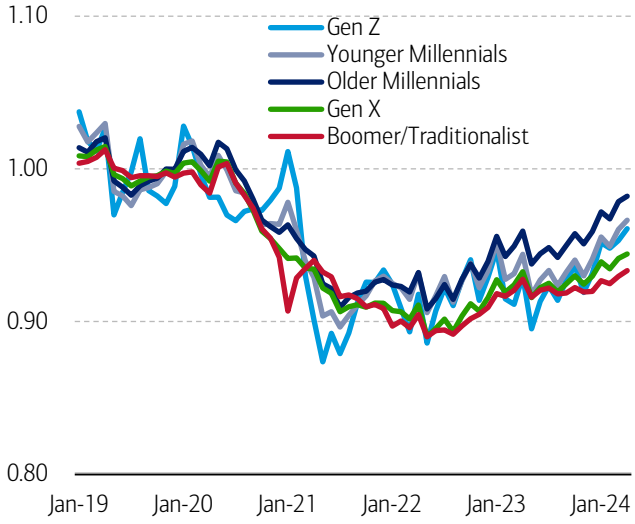
Are trade-downs and pressure on discretionary spending, despite strong wage gains, a potential sign of deteriorating financial health amongst the younger generations? And are some younger generations increasingly using credit to support their spending?

When looking at credit card data, it's important to distinguish between 'revolvers' and 'transactors.' While the latter group uses their cards to make purchases and pays off the full balance each month, revolvers tend to maintain some level of positive card balance from one month to the next.

Intuitively, revolvers would most likely exhibit signs of being financially stretched, given they are already not paying their balance in full. Focusing only on this group, Exhibit 8 uses Bank of America internal data to show how the credit card utilization rate has changed since 2019 across generations for a stable cohort of clients classified as 'revolvers' and finds that all generations' utilization rates are below the level they were in 2019. While Millennials and Gen Z have seen the most significant moves higher in utilization, these levels do not look particularly elevated.

Exhibit 8: The utilization of younger generation revolvers has risen most, but remains below the level in 2019

Credit card utilization rates for a stable cohort of clients classified as 'revolvers' (average utilization rate in 2019=1, data to April 2024)



Source: Bank of America internal data

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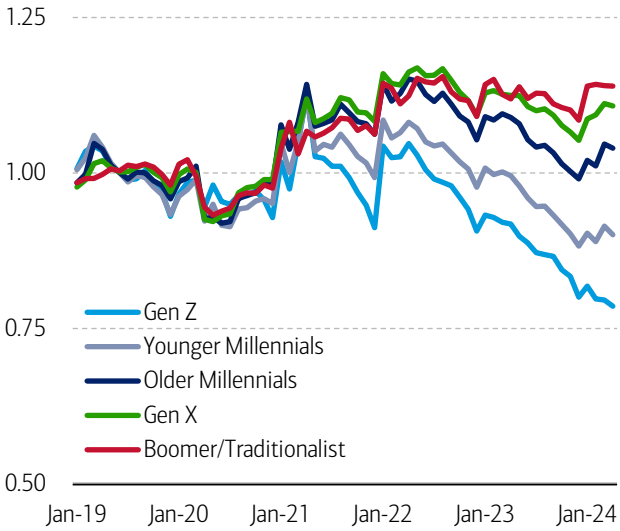
Exhibit 9: Repayment rates have fallen amongst Gen Z and younger Millennials revolvers, though from relatively high absolute levels

Credit card repayment rates for a stable cohort of clients classified as 'revolvers' (average utilization rate in 2019=1, data to April 2024)



Source: Bank of America internal data

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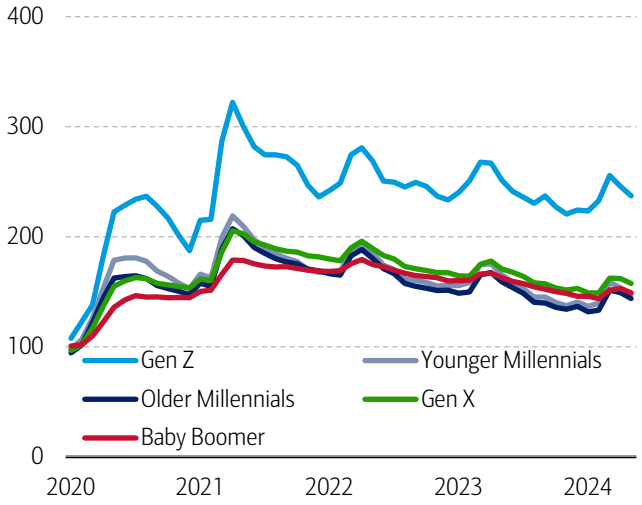
Exhibit 9 shows the credit card repayment rate among the generations – a lower rate means customers are paying off less of their revolving balances each month.

Interestingly, while the older generations' repayment rates are above 2019 levels, it appears that Gen Z and younger Millennials have seen a decline in their repayment rates to below 2019 levels. This could be a sign that these generations are under greater financial pressure and paying off less of their balances as a result. However, it is hard to abstract from 'life-cycle' influences as these cohorts had the highest repayment rates in 2019 and their current trajectory may simply be a reflection of their behavior becoming increasingly similar to older generations as they mature and take on more recurring months costs.

When we look at Bank of America internal data on saving and checking balances by all households, we see that all generations, from Gen Z through to Baby Boomers, have 44% or more deposits than they did pre-pandemic (Exhibit 10).

Exhibit 10: All generations have raised deposits relative to 2019
Monthly median household savings and checking balances by generation (2019=100) for a fixed group of households through May 2024



Source: Bank of America internal data
Note: Bank of America internal data. Monthly data includes those households that had a consumer deposit account (checking and/or savings account) for all months from January 2019 through May 2024.

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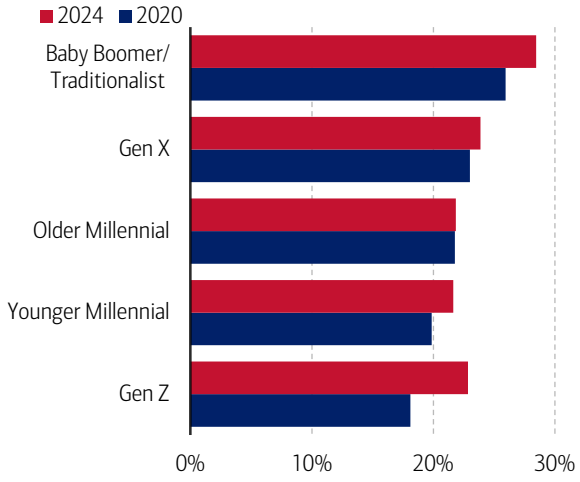
Exhibit 11: The share of younger clients with deposit inflows less than 95% of outflows has been rising
The proportion of a stable cohort of clients with a ratio of deposit account inflows to outflows less than 0.95 by generation (%, six month average, data to April 2020/2024)



Source: Bank of America internal data

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Are there any signs of stress within these younger generations? Exhibit 11 shows a stable group of Bank of America clients and looks at the proportion that have seen the inflows to their deposit account fall short of their outflows by 5% or more over a six-month average. Conceptually, these clients could be relatively more stretched as it appears their incomings have been falling meaningfully short of their outgoings for an extended period of time.

While the proportion of clients whose inflows are lower than outflows by 5% or more is generally low, it appears Gen Z and younger Millennials have seen a rise in this share since 2020, while Gen X and older Millennials have seen little change.

Overall, based on our data, it appears that the strength of the labor market and the associated wage growth, as well as elevated savings deposits, have allowed a majority of younger cohorts to weather any pressures they are seeing from higher necessity outlays. However, around the edges, some do seem to be feeling more pressure, with some signs of rising credit card utilization rates and a rising proportion of the younger cohorts finding outflows from their accounts outstripping their inflows by a sizeable margin.

Monthly data update

Total payment growth across all channels (ACH, Bill Pay, Credit and Debit Card, Wires, Person-to-Person, Cash and Check) rose 1.8% YoY in May. Bank of America total credit and debit card spend, which comprises around 20% of total payments, increased 2.4% YoY in May.

Methodology

Selected Bank of America transaction data is used to inform the macroeconomic views expressed in this report and should be considered in the context of other economic indicators and publicly available information. In certain instances, the data may provide directional and/or predictive value. The data used is not comprehensive; it is based on **aggregated and anonymized** selections of Bank of America data and may reflect a degree of selection bias and limitations on the data available.

Any payments data represents aggregated spend from US Retail, Preferred, Small Business and Wealth Management clients with a deposit account or credit card. Aggregated spend include total credit card, debit card, ACH, wires, bill pay, business/peer-to-peer, cash, and checks.

Any **Small Business** payments data represents aggregate spend from Small Business clients with a deposit account or a Small Business credit card. Payroll payments data include channels such as ACH (automated clearing house), bill pay, checks and wire. Bank of America per Small Business client data represents activity spending from active Small Business clients with a deposit account or a Small Business credit card and at least one transaction in each month. Small businesses in this report include business clients within Bank of America and generally defined as under $5mm in annual sales revenue.

Unless otherwise stated, data is not adjusted for seasonality, processing days or portfolio changes, and may be subject to periodic revisions.

The differences between the total and per household card spending growth rate can be explained by the following reasons:

1. Overall total card spending growth is partially boosted by the growth in the number of active cardholders in our sample. This could be due to an increasing customer base or inactive customers using their cards more frequently.

2. Per household card spending growth only looks at households that complete at least five transactions with Bank of America cards in the month. Per household spending growth isolates impacts from a changing sample size, which could be unrelated to underlying economic momentum, and potential spending volatility from less active users.

3. Overall total card spending includes small business card spending while per household card spending does not.

4. Differences due to using processing dates (total card spending) versus transaction date (per household card spending).

5. Other differences including household formations due to young adults moving in and out of their parent's houses during COVID.

Any household consumer deposit data based on Bank of America internal data is derived by anonymizing and aggregating data from Bank of America consumer deposit accounts in the US and analyzing that data at a highly aggregated level. Whenever median household savings and checking balances are quoted, the data is based on a fixed cohort of households that had a consumer deposit account (checking and/or savings account) for all months from January 2019 through the most current month of data shown.

Bank of America aggregated credit/debit card spending per household includes spending from active US households only. Only consumer card holders making a minimum of five transactions a month are included in the dataset. Spending from corporate cards are excluded. Data regarding merchants who receive payments are identified and classified by the Merchant Categorization Code (MCC) defined by financial services companies. The data are mapped using proprietary methods from the MCCs to the North American Industry Classification System (NAICS), which is also used by the Census Bureau, in order to classify spending data by subsector. Spending data may also be classified by other proprietary methods not using MCCs.

Discretionary spending consists of total payments across credit card, debit card, ACH, wires, bill pay, business/peer-to-peer and checks. minus necessities (food at home, childcare, housing, autos, etc.) and other outflows (transfers, debt payments, cash, etc.).

The data on inflows and outflows into direct deposit accounts data is based on BAC internal data, it is derived by anonymizing and aggregating data from Bank of America consumer deposit accounts in the US at a highly aggregated level. Inflows and outflows are calculated as six-month averages.

Generations, if discussed, are defined as follows:

1. Gen Z, born after 1995

2. Younger Millennials: born between 1989-1995

3. Older Millennials: born between 1978-1988

4. Gen Xers: born between 1965-1977

5. Baby Boomer: 1946-1964

6. Traditionalists: pre-1946

Any reference to card spending per household on gasoline includes all purchases at gasoline stations and might include purchases of non-gas items.

Additional information about the methodology used to aggregate the data is available upon request.

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Disclosures

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DEMOGRAPHIA

EXECUTIVE SUMMARY

This annual report assesses housing affordability in 94 major markets across eight nations (Australia, Canada, China, Ireland, New Zealand, Singapore, United Kingdom and the, United States). The 2024 edition focuses on data from the third quarter of 2023.

KEY POINTS

Ratings: The report uses a median price-to-income ratio ("median multiple") to determine affordability.

Affordability Categories: Housing markets are rated from "affordable" to "impossibly unaffordable" based on their median multiple (Table (ES-1).

Geography: Housing markets are labor markets (which are also metropolitan areas or functional urban areas), largely defined by the "commuting shed." Housing affordability comparisons can be made, (1) between housing markets (such as a comparison between Adelaide and Melbourne) or (2) over time within the same housing market (such as between years in Adelaide).

Table ES-1
DEMOGRAPHIA HOUSING AFFORDABILITY RATINGS

Housing Affordability Rating	Median Multiple
Affordable	3.0 & Under
Moderately Unaffordable	3.1 to 4.0
Seriously Unaffordable	4.1 to 5.0
Severely Unaffordable	5.1 & 8.9
Impossibly Unaffordable	9.0 & Over

Median multiple: Median house price divided by median household income

Variations within Nations: The report emphasizes that affordability often varies significantly between markets within the same country. National averages aren't always representative.

Housing affordability in 2023 is summarized by affordability in *Table 3* and by geography in *Table 4*.

Table ES-2
Housing Affordability Ratings by Nation: Totals by Market

Nation	Affordable (3.0 &Under)	Moderately Unaffordable (3.1-4.0)	Seriously Unaffordable (4.1-5.0)	Severely Unaffordable (5.1 - 8.9)	Impossibly Unaffordable (9.0 &Over)	Total	Median Market
Australia	0	0	0	2	3	5	9.7
Canada	0	1	1	2	2	6	5.6
China: Hong Kong	0	0	0	0	1	1	16.7
Ireland	0	0	1	0	0	1	4.8
New Zealand	0	0	0	1	0	1	8.2
Singapore	0	1	0	0	0	1	3.8
United Kingdom	0	2	12	9	0	23	5.0
United States	0	11	23	17	5	56	4.8
TOTAL	0	15	37	31	11	94	5.0

In the US, the most affordable market was Pittsburgh (PA), with a median multiple of 3.1, followed closely by Rochester (NY) and St. Louis (MO-IL) at 3.4, with Cleveland (OH) at 3.5. Rounding out the most affordable ten markets also includes one Canadian market, Edmonton, plus Buffalo (NY), Detroit (MI), Oklahoma City (OK) at 3.6, Cincinnati (OH-KY-IN) and Louisville (KY-IN) at 3.7. Singapore at 3.8 was also moderately unaffordable, along with, in the UK, Blackpool and Lancashire, and Glasgow at 3.9.

The least affordable market in the English-speaking world in 2023 was Hong Kong, with a median multiple of 16.7, followed by Sydney at 13.3, Vancouver at 12.3, San Jose (CA) at 11.9, Los Angeles at 10.9, Honolulu at 10.5, Melbourne at 9.8, San Francisco and Adelaide at 9.7, San Diego and 9.5, and Toronto at 9.3.

THE HOUSING AFFORDABILITY CRISIS: CAUSES AND A PATH FORWARD

Middle-income households face rapidly escalating housing costs, which is the primary cause of the present cost-of-living crisis. For decades, home prices generally rose at about the same rate as income, and homeownership became more widespread. But affordability is disappearing in high-income nations as housing costs now far outpace income growth. The crisis stems principally from land use policies that artificially restrict housing supply, driving up land prices and making homeownership unattainable for many.

Urban containment policies (greenbelts urban growth boundaries, densification) are designed to limit sprawl and increase density. While well-intentioned, these policies severely constrict the land available for housing. In constrained markets, higher land values translate to dramatically higher house prices.

ECONOMIC DYNAMICS

Land values naturally increase closer to urban centers. Urban containment policies are associated with abrupt value spikes at established boundaries. Research confirms this, finding land

prices inside urban containment boundaries can be 8-20 times higher than outside.

NEW ZEALAND'S REFORMS: A MODEL

New Zealand provides a hopeful path forward. Recognizing the crisis is rooted in high land values, new policies are proposed to open up sufficient land to accommodate demand.

A FOCUS ON PEOPLE, NOT PLACES

The housing crisis demands prioritizing the well-being of people over abstract planning ideals. The planning orthodoxy, while aimed at improving cities, has worsened affordability. This undermines the economic opportunity essential for thriving middle- and lower-income households.

Table 3
HOUSING MARKETS RANKED BY AFFORDABILITY: MOST AFFORDABLE TO LEAST AFFORDABLE
Median Multiple (Median House Price/Median Household Income): 2022: Third Quarter

Rank	Nation	Metropolitan Market	Median Multiple	Rank	Nation	Metropolitan Market	Median Multiple
1	U.S.	Pittsburgh, PA	3.1	48	U.K.	Greater Manchester	5.0
2	U.S.	Rochester, NY	3.4	48	U.K.	Nottingham	5.0
2	U.S.	St. Louis,, MO-IL	3.4	48	U.K.	Warrington & Cheshire	5.0
4	U.S.	Cleveland, OH	3.5	48	U.S.	Charlotte, NC-SC	5.0
5	Canada	Edmonton, AB	3.6	48	U.S.	Washington, DC-VA-MD-WV	5.0
5	U.S.	Buffalo, NY	3.6	53	U.K.	West Midlands	5.2
5	U.S.	Detroit, MI	3.6	53	U.S.	Milwaukee, WI	5.2
5	U.S.	Oklahoma City, OK	3.6	55	Canada	Ottawa-Gatineau, ON-QC	5.3
9	U.S.	Cincinnati, OH-KY-IN	3.7	56	U.S.	Phoenix, AZ	5.4
9	U.S.	Louisville, KY-IN	3.7	57	U.K.	Leicester & Leicestershire	5.5
11	Singapore	Singapore	3.8	58	U.S.	Providence, RI-MA	5.6
12	U.K.	Blackpool & Lancashire	3.9	59	U.S.	Tampa-St. Petersburg, FL	5.7
12	U.K.	Glasgow	3.9	59	U.S.	Tucson, AZ	5.7
12	U.S.	Tulsa, OK	3.9	61	Canada	Montreal, QC	5.8
15	U.S.	Indianapolis. IN	4.0	61	U.S.	Fresno, CA	5.8
16	U.K.	Middlesbrough & Durham	4.1	61	U.S.	Orlando, FL	5.8
16	U.S.	Columbus, OH	4.1	61	U.S.	Sacramento, CA	5.8
16	U.S.	Grand Rapids, MI	4.1	61	U.S.	Salt Lake City, UT	5.8
16	U.S.	Minneapolis-St. Paul, MN-WI	4.1	66	U.K.	Northampton	5.9
20	U.K.	Newcastle	4.2	67	U.K.	Swindon	6.2
20	U.S.	Chicago, IL-IN-WI	4.2	67	U.S.	Las Vegas, NV	6.2
20	U.S.	Hartford, CT	4.2	69	U.S.	Portland, OR-WA	6.4
20	U.S.	Kansas City, MO-KS	4.2	70	U.K.	Plymouth & Devon	6.5
20	U.S.	Memphis, TN-MS-AR	4.2	70	U.S.	Denver, CO	6.5
20	U.S.	Philadelphia, PA-NJ-DE-MD	4.2	70	U.S.	Riverside-San Bernardino, CA	6.5
26	U.K.	Liverpool	4.3	73	U.K.	London Exurbs	6.7
26	U.K.	Sheffield	4.3	73	U.S.	Seattle, WA	6.7
26	U.S.	Atlanta, GA	4.3	75	Australia	Perth, WA	6.8
26	U.S.	Baltimore, MD	4.3	75	U.S.	Boston, MA-NH	6.8
30	U.K.	Stoke on Trent & Staffordshire	4.4	77	U.K.	Bristol-Bath	7.0
30	U.S.	Birmingham, AL	4.4	77	U.S.	New York, NY-NJ-PA	7.0
30	U.S.	Houston, TX	4.4	79	U.K.	Bournemouth & Dorset	7.5
30	U.S.	New Orleans. LA	4.4	80	Australia	Brisbane, QLD	8.1
30	U.S.	Virginia Beach-Norfolk, VA-NC	4.4	80	U.K.	Greater London	8.1
35	U.K.	Edinburgh	4.5	80	U.S.	Miami, FL	8.1

Table 3, contd.
HOUSING MARKETS RANKED BY AFFORDABILITY: MOST AFFORDABLE TO LEAST AFFORDABLE
Median Multiple (Median House Price/Median Household Income): 2022: Third Quarter

Rank	Nation	Metropolitan Market	Median Multiple	Rank	Nation	Metropolitan Market	Median Multiple
35	U.S.	Dallas-Fort Worth, TX	4.5	83	N.Z.	Auckland	8.2
35	U.S.	San Antonio, TX	4.5	84	Canada	Toronto, ON	9.3
38	Canada	Calgary, AB	4.6	85	U.S.	San Diego, CA	9.5
39	U.K.	Derby & Derbyshire	4.7	86	Australia	Adelaide, SA	9.7
39	U.K.	Leeds	4.7	86	U.S.	San Francisco, CA	9.7
39	U.S.	Richmond, VA	4.7	88	Australia	Melbourne, VIC	9.8
42	Ireland	Dublin	4.8	89	U.S.	Honolulu, HI	10.5
42	U.K.	Hull & Humber	4.8	90	U.S.	Los Angeles, CA	10.9
42	U.S.	Jacksonville, FL	4.8	91	U.S.	San Jose, CA	11.9
45	U.S.	Austin, TX	4.9	92	Canada	Vancouver, BC	12.3
45	U.S.	Nashville, TN	4.9	93	Australia	Sydney, NSW	13.8
45	U.S.	Raleigh, NC	4.9	94	China	Hong Kong	16.7

Chapter 12 Daily rules and customs

1 Life rules

1-1 Garbage

(1) Basic rules for garbage disposal

When you dispose of garbage, you have to observe the following rules:

- Comply with the garbage sorting rules, pick-up sites and days; and
- Follow the rules set forth by the municipal government in your area.

* In general, you must put your garbage bags outside on the morning of the collection day.

* The wrong kind of garbage or garbage bags placed outside of the designated site will not be collected.

* In some areas, you have to purchase trash bags designated by the local government and put your garbage in them.

Garbage sorting example (Follow the rules stipulated by your municipality)

Burnable waste	Kitchen waste and paper, etc.
Non-burnable waste	Broken ceramics, glasses, metal, etc.
Recyclable waste	Bottles, cans, plastic bottles, newspapers, books, plastic containers, cartons, etc.
Oversized garbage A fee may be charged for disposal and recycling	Furniture (tables and chairs, etc.,) bicycles, bed mattresses, etc.
Home Appliance Waste A fee may be charged for disposal and recycling	Air conditioners, TVs, refrigerators, freezers, washing machines and clothes dryers, etc.

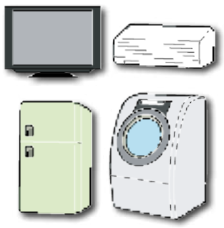
Key Point:

Used cooking oil

Used cooking oil must not be poured down the kitchen drain. Please put away used cooking oil in accordance with the rules of the municipalities you reside, after putting some paper towel in the pan to absorb the oil or curding such oil by using a coagulant etc.

Key Point:

Home Appliance waste



When you replace or dispose of the home appliances listed below, you need to pay a recycling fee and a collection and transportation fee:

- Air conditioners;
- TVs;
- Refrigerators and freezers; and
- Washing machines and clothes dryers.

Further, when you dispose of those, you need to ask a business operator who has been approved for collection and transportation. If you have no idea which business operator you should ask, please contact the local government of your municipality.

Payment and collection

i. When replacing with new appliance

- The shop where you purchase a new one at

  Each shop has its own collection policies. Ask for details at the shop where you will purchase a new appliance.

ii. Not replacing but disposal only

- The shop where you have purchased the appliance you wish to dispose of

  If you do not remember where you have bought an appliance, ask your local government for help.

(2) Illegal dumping

Do not recklessly dump waste at any non-designated site.

It is against the law to do so, and you may be punished.

Observe the garbage-sorting rules of the municipality in which you reside.

Many municipalities have regulations that do not allow the littering of streets with cans and cigarette butts. Doing this can be subject to administrative or criminal penalty, so never do it.

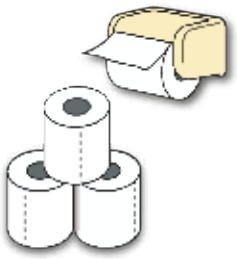
1-2 Making Noise

Japanese people tend to think that loud sounds and voices bother others.

- Be careful that loud voices, parties, TV and music might bother your neighbors.
- Be careful not to make a lot of noise when you use a washing machine,or a vacuum cleaner, or taking a shower early in the morning or late at night.
- In condominium or apartments, refrain from talking loudly or making a lot of noise.

1-3 Restroom

Japanese restrooms



- Be sure to use only the toilet paper that is in the restroom.
- Used paper should be flushed.
  → In some countries, used paper is deposited in a trash bin in the restroom. However, in Japan, it can be flushed away: if the paper in the restroom is properly used, the pipe is rarely clogged with paper.
- There are many buttons in public restrooms in department stores and at stations, etc. The flushing button normally looks like this: 流す (FLUSH).

1-4 Mobile phone use

- Do not use a mobile phone while walking to avoid injuring yourself or other passengers.
- It is prohibited by law to use a mobile phone while driving or riding a bicycle.

1-5 On a bus or train

In public spaces like trains and buses, please keep in mind the following:

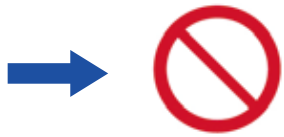
- Speaking in a loud voice is considered to be manner violation in Japan.
- As talking on the phone on a bus or train is considered to be bad manners in Japan, please refrain from talking on the phone (as it bothers other people).
- Be sure that your music is not too loud and cannot be overheard outside of the earphones.
- When a bus or train is crowded, take care so your backpack does not bother other people.

1-6 Hot springs and bathhouses

- There are rules at public baths like hot springs and bathhouses.
- Wash your body before getting in the bathtub.
- Do not put a towel in the bathtub.
- Do not use soap and shampoo in the bathtub to wash your body and hair.
- Persons with tattoos may not be allowed to enter public baths.

1-7 Prohibition signs

There are signs to indicate that something is forbidden.

This is the basic sign 

Obey these signs in the area they are placed.

"Don't swim."

"Don't smoke."

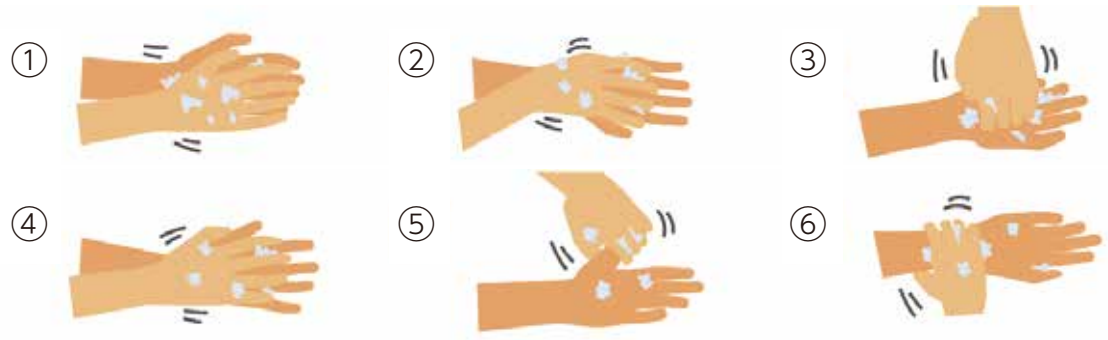
"Don't talk on the phone."

2 Prevention of infectious diseases

In Japan, infectious diseases such as cold or influenza sometimes break out in winter when the air is especially dry, as well as an unprecedented infectious disease caused by a new virus sometimes emerges. In this section, basic precautionary measures to prevent the spread of infectious diseases are provided. When any infectious disease is prevalent, each person should make sure the following:

2-1 Hand washing

It is effective measures to wash your hands with running water and soap in order to physically remove a virus sticking to your hand or finger. You should frequently wash your hands upon returning home, before and after cooking, before meals, etc. The order of steps for hand washing is as follows:



i. After thoroughly wetting your hands with running water, apply soap and rub the palms well.
ii. Rub the back of your hands up and down.
iii. Thoroughly rub the fingertips and nails.
iv. Wash between your fingers.
v. Twist and wash your thumbs with the palms of your hands.
vi. Don't forget to clean your wrists.

* After cleaning with soap thoroughly, rinse with water and wipe dry with a clean towel or paper towel.

2-2 Coughing manners

"Coughing manners" mean covering your mouth and nose with a mask, a tissue, a handkerchief, a sleave, the inside of your elbow, etc. when you cough or sneeze, in order to avoid infecting others.

You should observe the following manners when you have symptoms such as coughs or sneezing.

- Wear a mask and cover your mouth and nose.
- Cover your mouth and nose with a tissue or handkerchief if you do not have a mask.
- If you suddenly cough or sneeze, do so in your elbow or inside your sleeves of jacket.
- Do not cough or sneeze without shielding your mouse and nose, and do not use your hands to cover coughs and sneezing.

It is also important to wear a mask correctly. You should wear a mask in the following steps.

i. Ensure both your nose and mouth are covered.
ii. Place the rubber string over your ears.
iii. Cover up to your nose so there are no gaps.

2-3 Humidity

When the air is dry, the defensive function of respiratory tract mucosa weakens, which makes you vulnerable to infectious diseases. Particularly, when you are inside the room in which the air is likely to be dry, the use of humidifiers to keep the humidity constant (50 to 60%) is effective.

2-4 Rest and nutrition

In order to enhance body resistance, you should try to take enough rest and have a well-balanced diet on a daily basis.

2-5 Going out

When an infectious disease is prevalent, it is especially advisable that senior citizens, people with underlying conditions, pregnant women, people who feel sick, people who have lack of sleep, etc. should refrain from going out. In particular, please avoid going to a crowded place and downtown.

Furthermore, when going out, you should ensure that you wear a mask. When you may enter a crowded place, you can prevent droplet infection, etc. to some extent by wearing a non-woven mask.

3 Lifestyle necessities

3-1 Community life

(1) Community groups (Residents' association and neighborhood association)

In Japan, community members voluntarily form groups with the purpose of trying to make their community a safe and comfortable place to live in through organizing activities together. Funds for activities are raised by community members.

Main activities (examples)

- Emergency drills for earthquakes and fires
- Traffic control for students on school routes
- Caring for the elderly and persons with disabilities
- Circulation of a notice from local government
- Event organization, such as summer festivals and school sports festivals, to deepen relationships among members.

For details, please contact your local municipal office.

(2) Relationship with your neighbors

- Talking to your neighbors, taking part in community activities help to have a good relationship with your neighbor.
- It helps avoid having trouble with them and you can exchange useful local information. You can help each other in emergencies.

3-2 Crime Prevention

Bear in mind the following to prevent crimes such as theft and sexual assault, etc.

- Lock your windows and doors every time you leave home;
- When you park a car, a motorcycle or a bicycle, make sure to lock it;
- When you carry valuable items, including a wallet or handbag, keep an eye on them;
- Try not to walk in dark streets or other deserted places at night; and
- If you are uncertain about anything about crime prevention, consult at a nearby police station.

3-3 Utility services

(1) Electricity

Start using electricity

When you wish to use electricity, here are the steps to follow:

i. Determine the date you want to start using the electricity service.
ii. Subscribe with a electric supplier in your area over the telephone or online.
iii. Flip the switch “on” on the circuit breaker on the service start date.

The provider may visit your residence depending on the contract and your housing facilities. In those cases, notice of this will b e given to you.

Electricity bills and payment methods

- Various plans are offered by energy providers to meet users’ needs. You can choose one that is suitable for you.
- Basically, bills are determined by your usage. However, a fixed base rate is set and is charged regardless of your actual usage amount.
- Bills are payable by automatic bank withdrawal, by paying in cash at a convenient store or a bank, or with a credit card.

* Your electricity usage is checked by your provider once a month by reading the meter situated outside of your residence either locally or remotely.

* Users are notified of their usage by the provider every month.

* The service plan you have chosen can be confirmed in the document provided by the electric power company when signing a contract.

Cancellation

When you wish to stop using electricity, the followings are the steps to follow:

i. Determine the day that service will end.
ii. Unsubscribe from the electricity supplier over the phone or online.

Generally speaking, the supplier will not visit you on the day when you cancel the service. However, there may be cases where they visit because the electric meter cannot be read from outside. In such cases, notice will be given by the provider.

Please visit the following website for consultation if you have any problems with sales activities by or contract with an electric power company.

https://www.emsc.meti.go.jp/general/consult.html

(2) Gas

Types of gas

- There are several types of gas with different components and combustion characteristics. However, City gas (13A) and LP gas are the most popular ones for homes.
- Choose a home appliance compatible with the gas type being used.

* It is dangerous to use appliances that are not compatible with the gas in use. Incorrect usage may cause fire or incomplete combustion.

Start using gas

- When you wish to use gas, the followings are the necessary steps to follow:

i. Determine the date you want to start using gas service.
ii. Subscribe with a gas company in your area over the telephone or online.

* The provider will visit you on the date your service will start. They will check your facilities, explain how to use gas appliances and then will start providing you with gas.

Gas bills and payment methods

- Various plans are offered by a gas company to meet users' requirements. Choose one that is suitable for you.
- Basically, bills are the total amount of the fixed base rate and your usage. You have to pay the bill every month.
- Bills are payable by automatic bank withdrawal, by cash at a convenient store or a bank, or with a credit card.

* The gas plan you have chosen can be confirmed in the document provided by the gas company when signing a contract.

Cancellation

- When you wish to stop using gas, here are the steps to follow:

i. Determine the cancellation date.
ii. Unsubscribe with the retailer over the phone or online.

* It is advisable to tell them your customer number, which is printed on your monthly meter-reading slip.

On the cancellation day, the provider will come to stop the gas meter. If the meter is situated in a location to which they do not have access, the gas user or someone else acting on their behalf need to be present.

Please visit the following website for consultation if you have any problems with sales activities by or contract with a gas company.

https://www.emsc.meti.go.jp/general/consult.html

(3) Water

Start using water

When you wish to start using water after moving into a new residence, you need to sign up for water supply bureau or water supply business in your municipality beforehand.

For details, please contact your local municipal office.

Water bill and payment methods

Water bill is charged and paid as follows:

i. Water supply charges are calculated by the water supply business in your municipality. The business checks your usage at the meter and charges you accordingly.

ii. Bills are the total amount of the basic charge and your usage. Basic charge is calculated according to the type of size your supply pipe. The bigger the diameter is, the higher the charge becomes. On the other hand, your usage varies every month. The more you use, the higher your bill becomes.

iii. Payment methods differ according to the businesses. As a basic rule, you can choose from automatic bank withdrawal, cash payment at a convenience store or a bank, etc.

3-4 Mobile phones

(1) Mobile phone contract

- Your identification must be verified when signing a contract.
- Your identification can be verified by the following methods: i) to present official documents (identification documents) that include your name, date of birth and current address to the mobile phone operator, or ii) to provide a copy of such documents to the mobile phone operator by mail or online.
- Following is a list of valid identification documents:

i. Residence Card;

ii. Driver's license;

iii. My Number Card; or

iv. Passport (only when it has your current address).

- If you are underage, all the documents listed below are required:

i. Identification document; and

ii. A consent letter from your parents or guardian.

- For a bill payment, you need to prepare one of the following:

  i. A credit card;
  ii. A bank card for a Japanese bank; or
  iii. A bankbook for a Japanese bank.

- Some mobile carriers provide multilingual information online and at stores.
- You can inquire beforehand about services and the documents required for a contract.

(2) Warnings for using services for mobile phone contracts

- There are malicious brokers who offer to enter into a mobile phone contract for you but use the contract for criminal purposes.
- If you ask somebody to make a contract for you, check it yourself as well.
- It is prohibited by law to transfer a contracted cell phone without the consent of the mobile phone operator. If you break this law, you will be prosecuted.

3-5 Bank Account

(1) How to open a bank account

- You can open a bank account at a bank branch. Depending on the bank, you may also be able to open a bank account by mail, smartphone app or PC. A cash card is generally sent to your home address later.
- Present the following items when opening a bank account:

  i. Identification document (e.g. Residence Card);
  ii. Seal (*Hanko*) (some banks accept signatures);
  iii. Employee ID card or Student ID card (If you do not have any of them, please go to the bank with someone in your workplace or at school.)

- If you are not confident with communicating in Japanese, ask someone who can continuously support you (in your workplace or at school) to interpret to help you.

(2) Notify your bank immediately of any change in your address or period of stay

- If there is any change in your information such as address, period of stay, status of residence and place of work, you should immediately contact the bank with which you have an account. Besides, your bank may contact you to check if there is any change in your information.
- If you fail to contact the bank when your address, period of stay, status of residence or job is changed, or if you fail to respond to the request from the bank, your bank account may become unavailable.

(3) How to close a bank account

- If you are not going to use your bank account due to leaving Japan, etc., please close it. You can close your bank account at a nearby bank branch.

* It is a CRIME to sell, transfer and receive a bank account (e.g. a cash card, a book, login ID and password etc.) If you commit this crime, you may be sentenced to imprisonment for a period of up to one year or less, or fined up to one million yen.

***Illegal (unlicensed) Banks**

Banks, need to be lisenced by the Jananese Government.

You must not request remittance to foreign countries by paying money to a “bank” or a person not licensed or regisered by the related authorities.

If you are unsure about if a bank or a service provider is legitimate, do not use the provider and consult with someone in your workplace or at school.

3-6 Post Office

- The symbol for post offices and mail boxes is 〒 while the color of this symbol is red.
- These are the major services the Post Office offers:

i. Sending letters, post cards and parcels in Japan or to overseas;
ii. Saving and remitting money, and paying public utility charges; and
iii. Life insurance sales.

4 Public Transportation

4-1 IC Cards issued by railway companies

(1) General functions

You can use IC cards issued by railway companies to pay the transportation fares of trains, subways, buses, etc. The general functions of the card are as follows:

- By charging an IC card, it is not necessary to purchase a ticket at a ticket vending machine;
- The card is available at the ticket vending machine and service counters at stations or bus service centers; and
- Fares can be discounted if they are paid with the card rather than in cash.

(2) Registered card

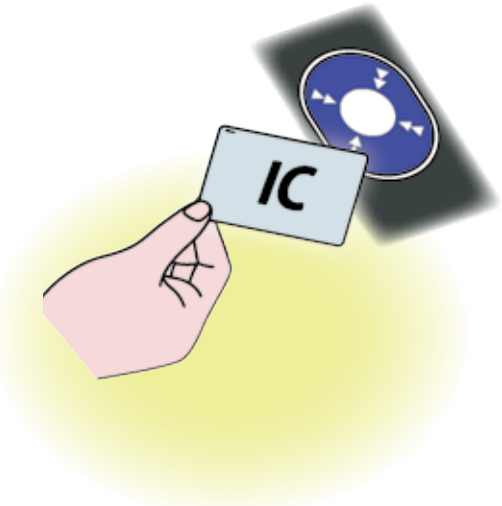
- The name of the card holder is printed on it.
- It is necessary to register name, phone number, date of birth and gender.
- If it is lost, it can be re-issued.

(3) Non-registered card

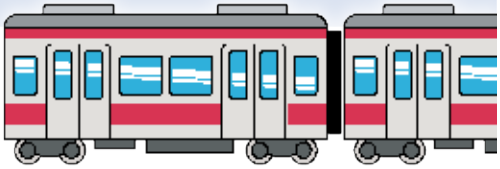
- The name of the holder is not printed on the card.
- If it is lost, it cannot be re-issued.

(4) Deposit

- Generally, you have to make a deposit when you purchase one.
- This deposit will be refunded when it is returned to the issuer company.



4-2 Trains



Japan has a well-developed train and subway network. Trains and subways are popular means of transportation for commuters and students.

(1) How to get on a train

The followings are the basic steps for using train services.

i. Find your destination on the train network map;
ii. Buy a ticket for your destination and insert it into the automatic ticket gate. (If you have an IC card, touch the card reader at the ticket gate with it);
iii. Follow the information on the display in the station and check the number of the platform where trains head for your destination come;
iv. Wait for trains behind the white line or yellow blocks on the platform; and
v. At your destination, exit from the ticket gate by inserting the ticket you have purchased at the departure station. (If you have touched your IC card at the departure station, touch it again at the ticket gate. The fare will be deducted from your card's balance.)

(2) Types of ticket

i. Regular train tickets	for ordinary trains or subways
ii. Multiple tickets	Eleven one-way tickets for a fixed distance for the price of ten (valid for three months).
iii. Commuting pass	This is useful for commuters and students who travel to the same destination frequently every month. Fare per travel will be more economical comparing to the regular one-way ticket. You can choose between validity periods of one, three, six months, etc.

(3) Other tickets

When you get on an express or specially-equipped train, in addition to a base-fare ticket, you have to purchase an extra ticket as follows:

i. Express ticket	For a bullet train or a limited express train;
ii. Reserved Seat ticket	For a reserved seat on a bullet train. It may be sold with an express ticket; or
iii. Green car ticket	For a higher grade Green car.

4-3 Bus

(1) Traveling long distances (Long-distance buses)

- As a rule, you need to buy your ticket before you get on a bus.

(2) To move in and around the city (Local buses)

i. When a flat fare is applicable

- Put your fare in the fare box when getting on.
- If you pay your fare with an IC card, touch the card-reader near the fare-deposit box with it.

ii. When a flexible fare applies

- Get on a bus, and pick up a ticket with a number from a small box near the door. When you get off the bus, pay the fare corresponding to the number on your ticket, which is indicated on the display above at the front.
- If you pay with an IC card, touch the card-reader twice: when getting on and getting off.

Dan Tsubouchi @Energy_Tidbits · 14h

Shale players keep advancing to get more oil out.

Bakken #Oil drilling technology advancements from ND's Lynn Helms.

- issued our first 4-mile lateral permits
- 70-75% of the permits are for 3-mile long laterals
- first two switchback [U-turn] wells have bene fracked

#OOTT

Bakken drilling advancements: "*issued our first 4-mile lateral permits", "70-75% of the permits are for 3-mile long laterals", "first two switchback [U-turn] wells".*

SAF Group created transcript of comments by Lynn Helms (North Dakota Director of Mineral Resources) on the monthly The Directors Cut webcast on June 14, 2024.

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

At 3:35min mark, Helms "*we permitted four, I believe four 4-mile laterals now. So we've issued in this last month., we issued our first 4-mile lateral permits. And that's pretty ground breaking. Lots of 3-mile laterals being drilled out there. Like we said about 70, 75% of the permits are for 3-mile long laterals. But we're now permitting 4-mile long wells. So we'll see how that technology works out. They just completed, after the Williston Basin conference, those first two switchback wells. And we've got another company that now that has permitted a switchback well. So I don't have the results on the flowback yet. They fracked the wells but they haven't started the flowback. So I don't know the results or how those wells are performing. But the frack jobs went fine and so it's possible to drill a mile in one direction, make a 180 degree turn and drill a mile back in the other direction, hydraulically fracture that well and get ready to put it on production. Pretty exciting technology developments going on.* "

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

1 9 21 4.2K

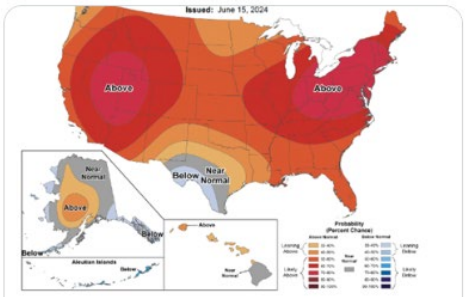
Dan Tsubouchi @Energy_Tidbits · 20h

Positive support for HH #NatGas prices.

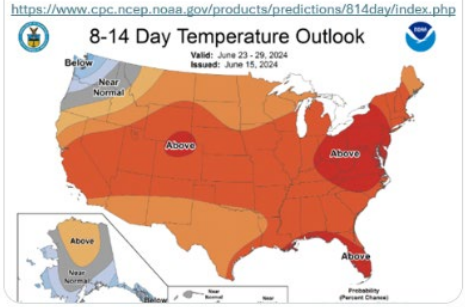
Its going to be hot for last part of June across all of the Lower 48.

@NOAA's June 15 updated 6-10 & 8-14 day temperature outlook covers June 23-29.

#OOTT



https://www.cpc.ncep.noaa.gov/products/predictions/814day/index.php



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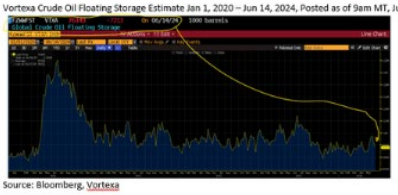
Dan Tsubouchi @Energy_Tidbits · Jun 15

Vortexa oil floating storage est 76.14 mmb at Jun 14.

BUT negative with last 7 wks average, incl Jun 14, is now up to 81.28 mmb as prior 3 wks revised up incl big +13.08 mmb revision to Jun 7.

Thx @vortexa @business
#OOTT

Vortexa Crude Oil Floating Storage Estimate Jan 1, 2020 – Jun 14, 2024, Posted as of 9am MT, June 15, 2024



Source: Bloomberg, Vortexa

Posted June 15, 9am MT | June 8, 9am MT | June 1, 9am MT

Source: Bloomberg, Vortexa

Region	Jun 14/24	Jun 7/24	WoW	Original Posted, Jun 7/24	Recent Peak, Jun 23/23	Jun 14 vs Jun 23
Asia	32.21	32.65	-0.44	28.05	72.76	-40.55
North Sea	5.73	3.51	2.22	3.51	5.42	0.31
Europe	11.32	9.18	2.14	9.09	6.21	5.11
Middle East	11.11	15.47	-4.36	13.52	6.76	4.35
West Africa	9.30	10.63	-1.33	9.88	7.62	1.68
US Gulf Coast	4.84	5.07	-0.23	2.41	1.00	3.84
Other	1.63	6.85	-5.22	2.82	28.91	-27.28
Global Total	76.14	83.56	-7.22	70.28	128.68	-52.54

Vortexa crude oil floating storage posted on Bloomberg 9am MT on Jun 15
Source: Vortexa, Bloomberg

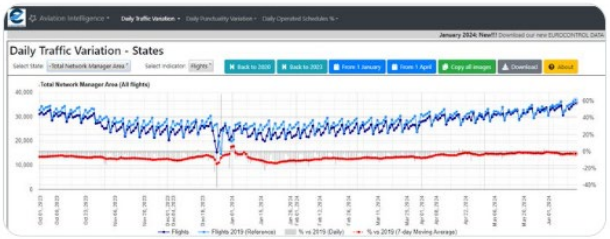
Prepared by SAF Group: https://safgroup.ca/news-insights/

2 | 13 | 2.1K

Dan Tsubouchi @Energy_Tidbits · Jun 15

Daily Europe air traffic -2.6% below pre-Covid

7-day average as of:
Jun 13: -2.6% below pre-Covid.
Jun 6: -3.2%
May 30: -0.8%
May 23: -1.9%
May 16: -1.2%
May 9: -3.2%
May 2: -2.9% ...
Show more



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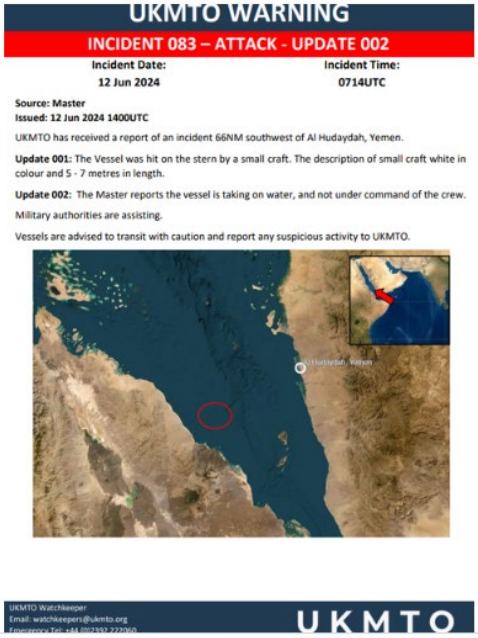
Dan Tsubouchi @Energy_Tidbits · Jun 12

Houthis hit another merchant ship in Res Sea. #OOTT

> **United Kingdom Maritime Trade Operations (UK** @UK_MT · Jun 12
>
> UKMTO WARNING INCIDENT 083 ATTACK UPDATE 002
>
> Update 002: The Master reports the vessel is taking on water, and not under command of the crew.
> Military authorities are assisting....
> Show more



UKMTO WARNING

INCIDENT 083 – ATTACK - UPDATE 002

Incident Date:	Incident Time:
12 Jun 2024	0714UTC

Source: Master
Issued: 12 Jun 2024 1400UTC

UKMTO has received a report of an incident 66NM southwest of Al Hudaydah, Yemen.

Update 001: The Vessel was hit on the stern by a small craft. The description of small craft white in colour and 5 - 7 metres in length.

Update 002: The Master reports the vessel is taking on water, and not under command of the crew.

Military authorities are assisting.

Vessels are advised to transit with caution and report any suspicious activity to UKMTO.

UKMTO Watchkeeper
Email: watchkeepers@ukmto.org

UKMTO

Dan Tsubouchi @Energy_Tidbits · Jun 15

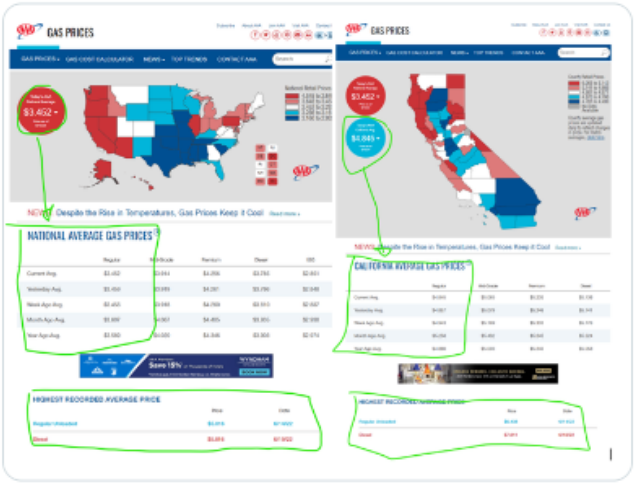
US gasoline prices keep drifting down.

Jun 15 $3.46, -$0.01 WoW, -$0.16 MoM & -$0.14 YoY.

California -$0.09 WoW to $4.85 on Jun 15.

See 👇 05/24 @GasBuddyGuy nailed it *"progressive decreases between Memorial Day, July 7 & Labor* Day"

Thx @AAAnews #OOTT



> **Dan Tsubouchi** @Energy_Tidbits · May 24
>
> 
>
>
> Biden hopes this forecast turns out true!
>
> US #Gasoline prices +$0.06 YoY BUT well followed @GasBuddyGuy expects *"progressive decreases between Memorial Day, July 4 and Labor Day"* subjec...

1 4 1.9K

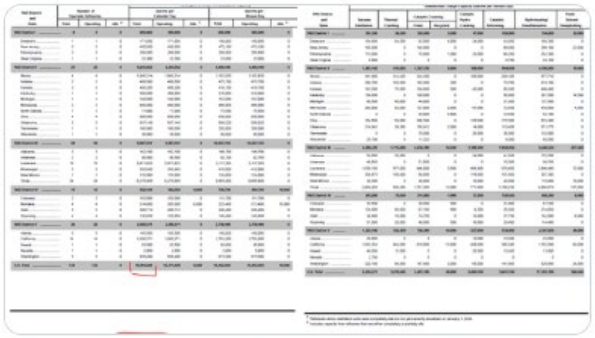
1 1 4 1.9K

Dan Tsubouchi @Energy_Tidbits · Jun 14

US #Oil refinery capacity +324 kb/d YoY to 18.384 mmb/d as of Jan 1/24.

2nd consecutive YoY increase off post Covid decline.

Jan 1/19: 18.802 mmb/d
Jan 1/20: 18.976
Jan 1/21: 18.127
Jan 1/22: 17.944
Jan 1/23: 18.060
Jan 1/24: 18.384...
Show more



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Dan Tsubouchi @Energy_Tidbits · Jun 14

321 crack spreads down -$0.86 WoW to $23.45 on Jun 14.

Yet WTI was +$2.92 WoW to $78.45 but that was driven by OPEC clarifying won't add barrels on Oct 1/24 if market isn't there.

Otherwise $23.45 would have pointed to softer WTI.

Thx @business
#OOTT

1 4 1.4K

Dan Tsubouchi @Energy_Tidbits · Jun 14

US needs more #NatGas power if it it doesn't want to let electricity prices get out of control.

Can't help read the Engie report w/o it's not #NatGas that will drive higher and more volatile power prices!

Report: "*We have observed a few mega trends that* ***foreshadow increased***
Show more

1 8 1.9K

Dan Tsubouchi @Energy_Tidbits · Jun 14

"***Vessels will move around and fill the gaps. There is no such thing as a vacuum in shipping.***" Kpler's @mattwright8 to @sean_evers on why there's been no impact on Russian crude exports despite sanctions on more tankers related to Russian shipping

And more in 👇 SAF Group
Show more

"Vessels will move around and fill the gaps. There is no such thing as a vacuum in shipping." Kpler's Matthew Wright on why there has been no impact on Russian crude exports despite sanctions on tankers related to Russian oil shipping.

SAF Group created transcript of comments by Matthew Wright (Senior Freight Analyst, Kpler) with Sean Evers (Founder & Managing Partner Gulf Intelligence) on the Gulf Intelligence Daily Energy Markets podcast on June 14, 2024. [LINK]

Items in "italics" are SAF Group created transcript

At 19:10 min mark, Wright "*... I wanted to touch on one thing Rachel said around sanctions and I completely agree, which is the sanctions on ships have, when you look at the effect on Russian crude exports, there's been no impact. Russian crude exports are higher this year than they were last year. Part of that to be fair is because we had all of those drone strikes on refineries, which resulted in higher crude output. However, we just had the UK's just sanctioned the Russian insurer, Ingosstrakh. So they're almost causing more problems because that just means that no one is going to pay out when there is a spill or an incident. Right, rather than that you're going to say oh well our insurers not covering us anymore, we won't do this. People were engaging in this trade knowing the risk. So I think now, we've got 80 Russian tankers or 80 tankers related to Russian trade that were sanctioned in the last year alone. And Russian exports have only increased. More vessels are just continuing to fill the gap if vessels leave that trade. The Greek vessels that left the Russian trade moved down to do a lot of the Venezuelan trade. Now we've had sanctions reimposed on Venezuela, a lot of them are now looking for something. So vessels will move around and fill the gaps. There is no such thing as a vacuum in shipping.*"

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

2 789

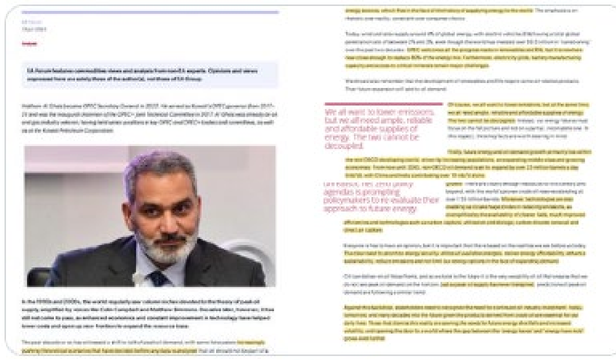
Dan Tsubouchi @Energy_Tidbits · Jun 14

IEA says peak oil demand by 2030

OPEC says that *"is a dangerous commentary, especially for consumers, and will only lead to energy volatility on a potentially unprecedented scale."* And much more.

My Energy Tidbits June 16 memo will highlight the big questionable IEA peak oil

Show more



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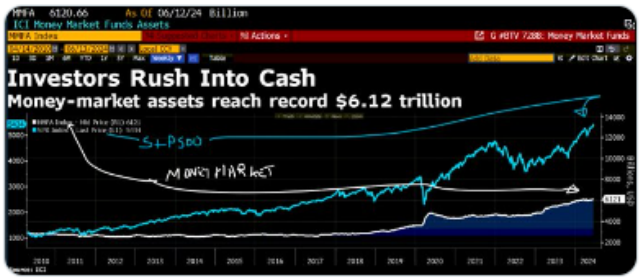
Dan Tsubouchi @Energy_Tidbits · Jun 13

Reminder there is an increasing massive amount of cash in money market funds and, with current interest rates, for now, staying out of equities.

@ICI Money market assts reach record $6.12 trillion reports @business Alexandra Harris & Carter Johnson.

#OOTT



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Dan Tsubouchi @Energy_Tidbits · Jun 13

WCS less WTI differentials widened to $13.80.

BP Whiting runs on Cdn crude. Moving its 255,000 b/d crude unit turnaround to late July from early Sept. Plus it's 95,000 b/d coker turnaround extended to early Sept reports @barbarajpowell8

#OOTT

2 10 2.7K

Dan Tsubouchi @Energy_Tidbits · Jun 13

Kudos to @BigRockBrewery who cut water consumption by 40% during Calgary water emergency.

"if we selfishly said we gotta make beer for Canada Day ... and somebody's house burns down, we'd feel pretty bad as a company that we made a choice to put our commercial purpose before our

Show more

5 1.3K

Dan Tsubouchi @Energy_Tidbits · Jun 13

LNG supply diversification or wanting LNG price specifically tied to Henry Hub, not Brent Oil?

Aramco 20-yr #LNG supply from NextDecade "*at a price indexed to Henry Hub*".

If Aramco worries about low #Oil price in 2030s/40s, they had closer LNG options linked to Brent.

#OOTT

https://www.aramco.com/en/news-media/news/2024/aramco-and-nextdecade-announce-heads-of-agreement-for-offtake-of-lng-from-rio-grande-lng-facility

Aramco and NextDecade announce Heads of Agreement for offtake of LNG from Rio Grande LNG Facility

At the signing ceremony, from left: NextDecade Chairman and Chief Executive Officer Matthew Schatzman, Aramco Upstream President Nasir K. Al-Naimi, and Aramco Executive Vice President of Gas Abdulkarim Al-Ghamdi

NEWS | DHAHRAN | JUNE 13, 2024

Operations

Aramco, one of the world's leading integrated energy and chemicals companies, and NextDecade Corporation (NextDecade) announced today that their respective subsidiaries have executed a non-binding Heads of Agreement (HoA) for a 20-year liquefied natural gas sale and purchase agreement (LNG SPA) for offtake from Train 4 at the Rio Grande LNG Facility at the Port of Brownsville, Texas, USA.

Under the terms of the HoA, Aramco expects to purchase 1.2 million tonnes per annum (MTPA) of LNG for 20 years on a free on board basis, at a price indexed to Henry Hub. Aramco and NextDecade are currently in the process of negotiating a binding agreement, and once executed, the effectiveness of which will be subject to a positive Final Investment Decision on Train 4.

Nasir K. Al-Naimi, Aramco Upstream President, said: "We look forward to finalizing the terms of a long-term LNG offtake agreement with NextDecade, as we explore opportunities to expand our presence in international energy markets. We expect LNG to play an important role in meeting the rising demand for secure and efficient energy."

Matt Schatzman, NextDecade Chairman and Chief Executive Officer, said: "We are pleased to have reached a Heads of Agreement with Aramco for LNG from Train 4, as Aramco seeks to expand its LNG portfolio. We look forward to finalizing the LNG SPA with Aramco and to pursuing other opportunities together."

1 2 7 2K

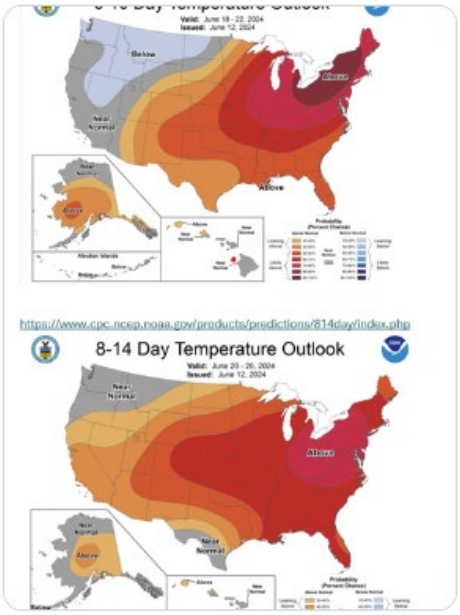
Dan Tsubouchi @Energy_Tidbits · Jun 12

Positive support for HH #NatGas prices.

Its going to be really hot in last half of June!

@NOAA updated 6-10 & 8-14 day temperature outlook covers June 18-26.

#OOTT



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Dan Tsubouchi @Energy_Tidbits · Jun 12

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> **United Kingdom Maritime Trade Operations (UK** @UK_MT · Jun 12
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> Update 002: The Master reports the vessel is taking on water, and not under command of the crew.
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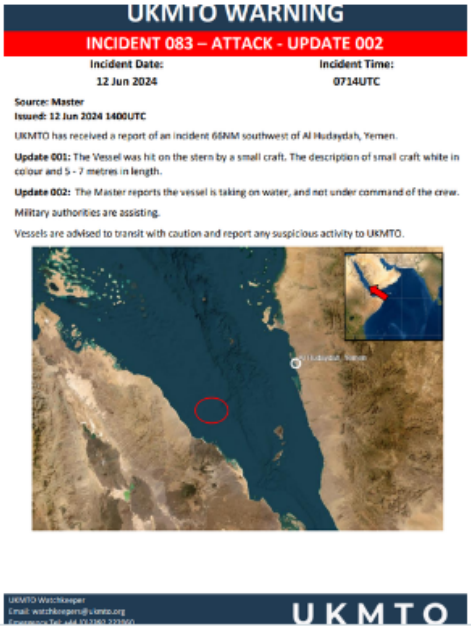
> Show more



UKMTO WARNING

INCIDENT 083 – ATTACK - UPDATE 002

Incident Date:	Incident Time:
12 Jun 2024	0714UTC

Source: Master
Issued: 12 Jun 2024 1400UTC

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Update 002: The Master reports the vessel is taking on water, and not under command of the crew.

Military authorities are assisting.

Vessels are advised to transit with caution and report any suspicious activity to UKMTO.

UKMTO Watchkeeper
Email: watchkeepers@ukmto.org

UKMTO

1 1.6K

Dan Tsubouchi @Energy_Tidbits · Jun 12

For those not near their laptop, @EIAgov just released #Oil #Gasoline #Distillates inventory as of June 7 at 8:30am MT. Table below compares EIA data vs @business expectations and vs @APIenergy yesterday. Prior to release, WTI was $79.15. #OOTT

Oil/Products Inventory June 7: EIA, Bloomberg Survey Expectations, API			
(million barrels)	EIA	Expectations	API
Oil	3.73	-1.50	-2.43
Gasoline	2.57	1.50	-2.55
Distillates	0.88	2.45	0.97
	7.18	2.45	-4.01
Note: Oil is commercial. So excludes a +0.4 mmb build in SPR for the June 7 week			
Note: Included in the oil data, Cushing had a 1.59 mmb draw for June 7 week			
Source EIA, Bloomberg			
Prepared by SAF Group https://safgroup.ca/news-insights/			

1 3 1.1K

Dan Tsubouchi @Energy_Tidbits · Jun 12

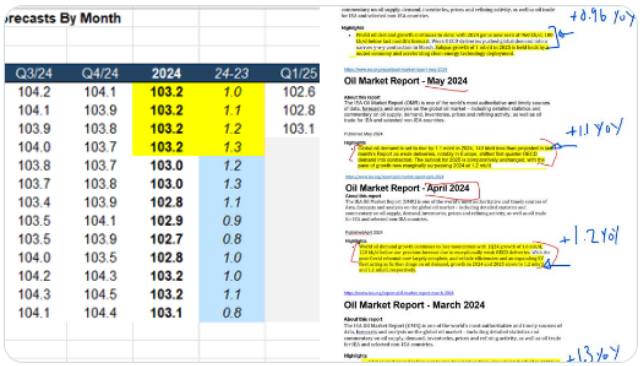
Rinse and repeat.

IEA June OMR cuts 2024 YoY #Oil demand growth, just like it did in May & Apr OMRs.

BUT IEA also increased its lookback at 2023 #Oil demand just like it did in May & Apr OMRs

Therefore IEA's 2024 oil demand forecast is unchanged at 103.2 mmb/d in June, May,

Show more



ecasts By Month

Q3/24	Q4/24	2024	24-23	Q1/25
104.2	104.1	103.2	1.0	102.6
104.1	103.9	103.2	1.1	102.8
103.9	103.8	103.2	1.2	103.1
104.0	103.7	103.2	1.3	
103.8	103.7	103.0	1.2	
103.7	103.8	103.0	1.3	
103.4	103.9	102.8	1.1	
103.5	104.1	102.9	0.9	
103.5	103.9	102.7	0.8	
104.0	103.5	102.8	1.0	
104.2	104.3	103.2	1.0	
104.3	104.5	103.2	1.1	
104.1	104.4	103.1	0.8	

Oil Market Report - May 2024

Oil Market Report - April 2024

Oil Market Report - March 2024

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Dan Tsubouchi @Energy_Tidbits · Jun 11

"*It's 100% demand-driven*" says GM CFO as to why they lowered EV% share of total autos and lowered EV sales guidance range to 200k to 250k (was 200k to 300k).

Reinforces EV sales are less than was expected.

ICE will be needed or preferred by customers for longer!

#OOTT

"*It's 100% demand-driven*" says GM CFO as to why they lowered EV % share of total autos and EV sales guidance range.

Excerpt Bloomberg Transcripts
GM presentation at Deutsche Bank Global Auto Industry Conference on June 11, 2024
Paul Jacobson, Executive Vice President and Chief Financial Officer
Emmanuel Rosner, Analyst Deutsche Bank

Jacobson "*On the EV side, while a lot is being written about how the growth rate has kind of diminished, we still see really strong performance in the GM portfolio. Cadillac LYRIQ was up over 3,500 vehicles in the month. We saw really good traction with the Blazer EV and as a result, sold about over 9,500 EVs in North America in the month of May. So despite the fact that we're seeing a little bit of slowing in that growth for our portfolio, it's still pretty strong. But given where the retail penetration is, we've gone into the year, I think most prognosticators were thinking that the EV market would be up to about 10% of total autos. We still see it trending kind of around that 8% level. As a result, we've talked before about 200,000 to 300,000 EVs this year. We're actually going to trim that to 200,000 to 250,000. So at the lower end of that, and I think it reflects the momentum that we have in the business.*"

Rosner: *So let's focus a little bit on your EV strategy. You just updated us at the beginning of this conversation that the goal for Ultium production this year will be 200,000 to 250,000 instead of like the 200,000 to 300,000 units that you had targeted before. Can you maybe tell us what drives this. Is it the demand side. Is it the supply side. Obviously, initially earlier, you had some issues with the production of the modules, the battery modules and how is that going right now. And I guess what's driving sort of like the change in outlook."*

Jacobson "*So it's 100% demand-driven. So on the supply side, we -- we've overcome the module issues. We were on track to be able to produce, like we said, up to 300,000 vehicles this year. But what we don't want to do is get in this trap of, of you know, I think the market a few years ago or even more recently than that had said, you've got to produce more EVs if we're going to ascribe any value to your company. And I think we as an industry overproduced and you've seen a lot of that pricing impacts result from that residual value impacts, et-cetera. So while we're focused and I think we've done a really good job of maintaining that intermediate and longer term horizon of where we are and sometimes to the detriment of public sentiment in the short-run. We're not producing enough, etcetera, but we've been very consistent about building a platform and growing EVs off of that and being able to do it in a way that meets customer expectations and we can grow into profitability. That's where we are, but we don't want to end up in a position where we give out a production target and then we just blindly produce and end up with hundreds of thousands of vehicles in inventory because the market is just not there yet.*"

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

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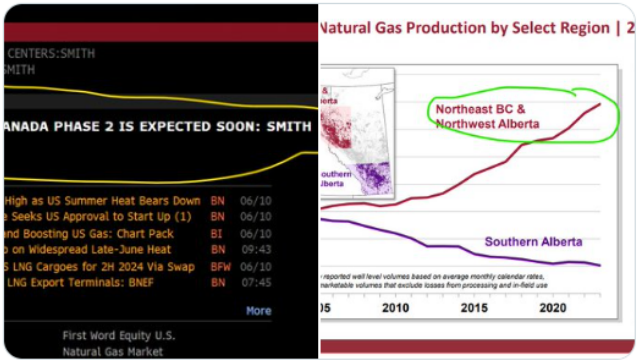
Dan Tsubouchi @Energy_Tidbits · Jun 11

#LNGCanada 1.8 bcf/d Phase 2 FID would be material vs NE BC/NW AB 14 bcf/d raw #NatGas in 2023.

Even those who don't agree with her have to acknowledge @ABDanielleSmith is pretty straight shooter.

So why would she even mention Phase 2 FID potential UNLESS she expects a Yes!

Show more



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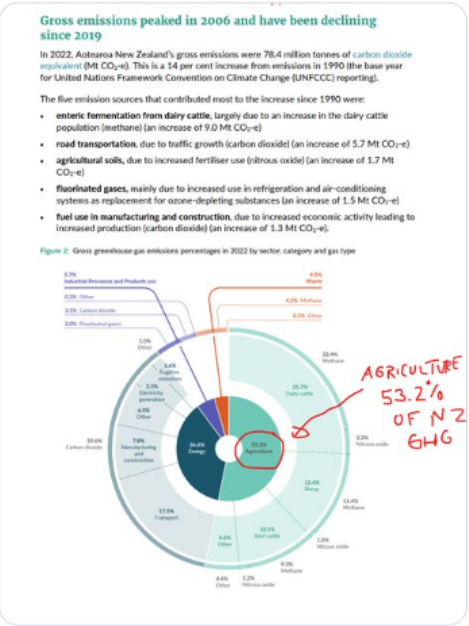
Dan Tsubouchi @Energy_Tidbits · Jun 11

It's a big give for NZ to back off on emissions from agriculture.

Agriculture is 53.2% of New Zealand gross greenhouse gas emissions.

👇is NZ"s latest Apr 2024 greenhouse gas inventory snapshot for 2022.

#OOTT



> **Dan Tsubouchi** @Energy_Tidbits · Jun 11
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>
> Another Reality Check!
>
> NZ takes "agriculture, animal processors & fertiliser co's" from being hit by charged regulated price of methane until >2030....

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Dan Tsubouchi @Energy_Tidbits · Jun 11

Another Reality Check!

NZ takes "agriculture, animal processors & fertiliser co's" from being hit by charged regulated price of methane until >2030.

NZ committed to #ClimateChange obligations "without shutting down Kiwi farms" & sending jobs/production overseas to less

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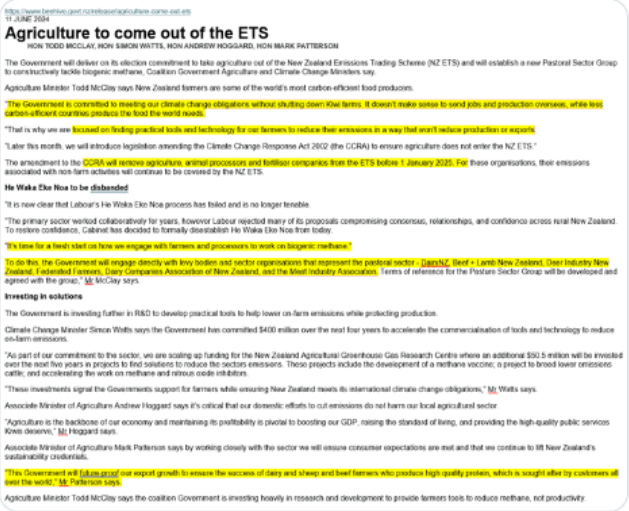

https://www.beehive.govt.nz/release/agriculture-come-out-ets

11 JUNE 2024

Agriculture to come out of the ETS

HON TODD MCCLAY, HON SIMON WATTS, HON ANDREW HOGGARD, HON MARK PATTERSON

The Government will deliver on its election commitment to take agriculture out of the New Zealand Emissions Trading Scheme (NZ ETS) and will establish a new Pastoral Sector Group to constructively tackle biogenic methane, Coalition Government Agriculture and Climate Change Ministers say.

Agriculture Minister Todd McClay says New Zealand farmers are some of the world's most carbon-efficient food producers.

"The Government is committed to meeting our climate change obligations without shutting down Kiwi farms. It doesn't make sense to send jobs and production overseas, while less carbon-efficient countries produce the food the world needs.

"That is why we are focused on finding practical tools and technology for our farmers to reduce their emissions in a way that won't reduce production or exports.

"Later this month, we will introduce legislation amending the Climate Change Response Act 2002 (the CCRA) to ensure agriculture does not enter the NZ ETS."

The amendment to the CCRA will remove agriculture, animal processors and fertiliser companies from the ETS before 1 January 2025. For these organisations, their emissions associated with non-farm activities will continue to be covered by the NZ ETS.

He Waka Eke Noa to be disbanded

"It is now clear that Labour's He Waka Eke Noa process has failed and is no longer tenable.

"The primary sector worked collaboratively for years, however Labour rejected many of its proposals compromising consensus, relationships, and confidence across rural New Zealand. To restore confidence, Cabinet has decided to formally disestablish He Waka Eke Noa from today.

"It's time for a fresh start on how we engage with farmers and processors to work on biogenic methane."

To do this, the Government will engage directly with levy bodies and sector organisations that represent the pastoral sector – DairyNZ, Beef + Lamb New Zealand, Deer Industry New Zealand, Federated Farmers, Dairy Companies Association of New Zealand, and the Meat Industry Association. Terms of reference for the Pasture Sector Group will be developed and agreed with the group," Mr McClay says.

Investing in solutions

The Government is investing further in R&D to develop practical tools to help lower on-farm emissions while protecting production.

Climate Change Minister Simon Watts says the Government has committed $400 million over the next four years to accelerate the commercialisation of tools and technology to reduce on-farm emissions.

"As part of our commitment to the sector, we are scaling up funding for the New Zealand Agricultural Greenhouse Gas Research Centre where an additional $50.5 million will be invested over the next five years in projects to find solutions to reduce the sectors emissions. These projects include the development of a methane vaccine; a project to breed lower emissions cattle; and accelerating the work on methane and nitrous oxide inhibitors.

"These investments signal the Governments support for farmers while ensuring New Zealand meets its international climate change obligations," Mr Watts says.

Associate Minister of Agriculture Andrew Hoggard says it's critical that our domestic efforts to cut emissions do not harm our local agricultural sector.

"Agriculture is the backbone of our economy and maintaining its profitability is pivotal to boosting our GDP, raising the standard of living, and providing the high-quality public services Kiwis deserve," Mr Hoggard says.

Associate Minister of Agriculture Mark Patterson says by working closely with the sector we will ensure consumer expectations are met and that we continue to lift New Zealand's sustainability credentials.

"This Government will future-proof our export growth to ensure the success of dairy and sheep and beef farmers who produce high quality protein, which is sought after by customers all over the world," Mr Patterson says.

Agriculture Minister Todd McClay says the coalition Government is investing heavily in research and development to provide farmers tools to reduce methane, not productivity.

> **Dan Tsubouchi** @Energy_Tidbits · Jun 9
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>
> Big Reality Check!
>
> "*Natural gas is critical to keeping our lights on and our economy running, especially during peak electricity demand and when generation dips ...*

5 12 6.1K

Dan Tsubouchi @Energy_Tidbits · Jun 11

Usual great consumer insight from @BankofAmerica Liz Everett Krisberg tracking of 69 million consumers/small business data.

Must read report at institute.bankofamerica.com/economic-insig...

Consumer ave checking/savings deposits 44% >2019 levels.
Consumer spending soft but stable.
Trading down...

Show more

1 4 7 2.7K

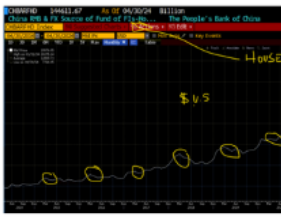
Dan Tsubouchi @Energy_Tidbits · Jun 10

As expected, China household savings see normal seasonal dip into savings in Apr/May linked to May Day holidays.

Household savings continue at high rates compared to pre-Covid.

Still waiting for Chinese consumer being convinced to spend more.

Thx @business #OOTT



Source: Bloomberg

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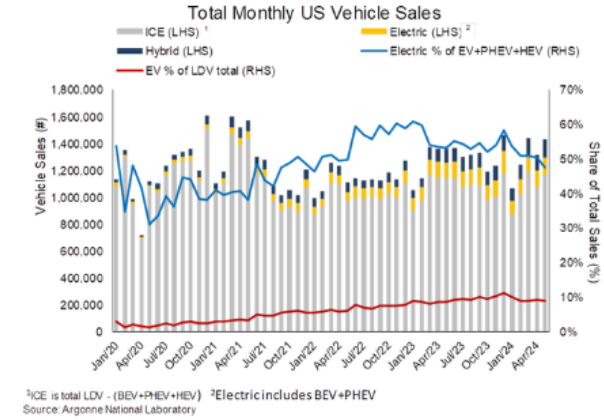
Dan Tsubouchi @Energy_Tidbits · Jun 10

Hybrids keep taking share from EVs. HEV now 52.5% of EV + PHEV + HEV.

Big +111.7k MoM increase in US car sales to 1.43 mm in May.

BEV: +6.4% MoM, +3.0% YoY to 98,797, 6.9% share.
PHEV: -5.6% MoM, +4.0% YoY to 26,124, 1.8% share.
HEV: +16.2% MoM, +33.0% YoY to 138,118, 9.7%
Show more



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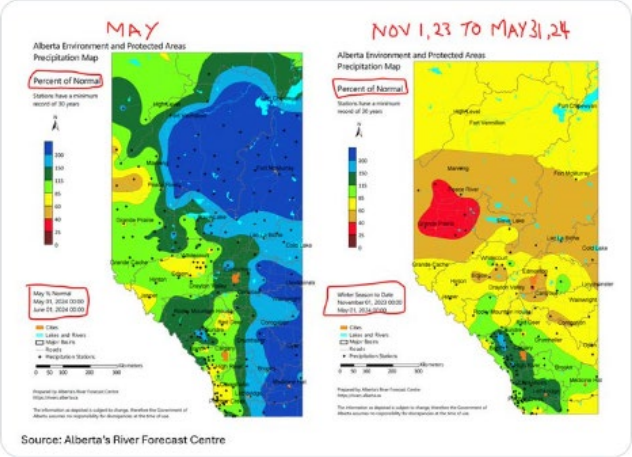
Dan Tsubouchi @Energy_Tidbits · Jun 10

Still high risk for Alberta wildfire season

It was wet in May with above normal precipitation in almost all of Alberta and really wet in all of eastern Alberta BUT, even still, precipitation since Nov 1 is still way below normal.

#OOTT



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Dan Tsubouchi @Energy_Tidbits · Jun 9

Looks like Greens and Renew Europe are biggest losers in European Parliament provisional results as of 01:37 GMT June 10.

#OOTT

European Parliamnet Provisional Results as of 01:37 GMT June 10

	European Parliament				
	Provisional Results	Percentage	Current	Percentage	Change
The Left	36	5.0%	37	5.2%	-1
Socialists and Democrats	139	19.3%	139	19.7%	0
Greens/European Free Alliance	52	7.2%	72	10.2%	-20
Renew Europe	80	11.1%	102	14.5%	-22
Christian Democrats	184	25.6%	176	25.0%	8
Conservatives and Reformists	73	10.1%	69	9.8%	4
Identity and Democracy	58	8.1%	49	7.0%	9
Non-attached Members + Others	98	13.6%	61	8.7%	37
Total	720	100.0%	705	100.0%	15

Source: European Parliament, Wikipedia

Prepared by SAF Group

1 3 5 2.1K

Dan Tsubouchi @Energy_Tidbits · Jun 9

1st official Libya oil production we have seen in some time.

But 1.251 mmb/d is right in line with the March updates so looks like steady production over past two months.

#OOTT .

> **National Oil Corporation المؤسسة الوطنية للنفط** @NOC_Libya · Jun 9
>
> معدلات إنتاج النفط الخام، المكثفات والغاز الطبيعي.
> #LIBYA #OIL #NOC

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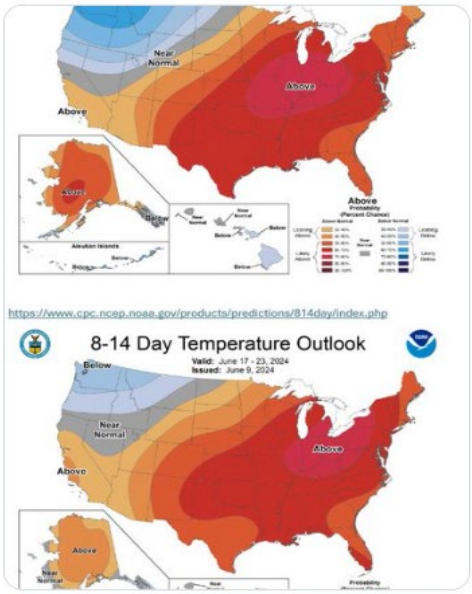
Dan Tsubouchi @Energy_Tidbits · Jun 9

Support for HH #NatGas prices.

@NOAA updated 6-10 & 8-14 day temperature outlook call for well above normal temperatures for most of the US looking ahead to June 15-23 period.

#OOTT



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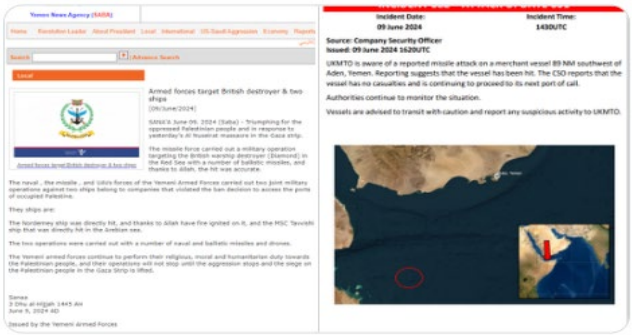
Dan Tsubouchi @Energy_Tidbits · Jun 9

No confirmations yet as to success or no success for Houthis claim attack was successful on UK destroyer.

But @UK_MTO just confirmed another merchant ship hit by Houthis. This is 3rd in last two days. x.com/UK_MTO/status/...

Tough for US/UK to protect outside Red Sea
#OOTT



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