Independent Statistics and Analysis
U.S. Energy Information Administration

Short-Term Energy Outlook

STEO

October 2025

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Short-Term Energy Outlook

Overview

U.S. energy market indicators	2024	2025	2026
Brent crude oil spot price (dollars per barrel)	**$81**	**$69**	**$52**
Retail gasoline price (dollars per gallon)	**$3.30**	**$3.10**	**$2.90**
U.S. crude oil production (million barrels per day)	**13.2**	**13.5**	**13.5**
Natural gas price at Henry Hub (dollars per million British thermal units)	**$2.20**	**$3.40**	**$3.90**
U.S. liquefied natural gas gross exports (billion cubic feet per day)	**12**	**15**	**16**
Shares of U.S. electricity generation			
Natural gas	42%	40%	40%
Coal	16%	17%	16%
Renewables	23%	24%	26%
Nuclear	19%	18%	18%
U.S. GDP (percentage change)	**2.8%**	**1.8%**	**2.4%**
U.S. CO_2 emissions (billion metric tons)	**4.8**	**4.9**	**4.8**

Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook,* October 2025
Note: Values in this table are rounded and may not match values in other tables in this report.

- **Global oil prices.** We expect global oil inventories to rise through 2026, putting significant downward pressure on oil prices in the coming months. We forecast that the Brent crude oil price will fall to an average of $62 per barrel (b) in the fourth quarter of 2025 and $52/b in 2026.
- **Global oil production.** Global liquid fuels production increases throughout the forecast, which we expect will drive inventory accumulation. Production growth is led by countries outside of OPEC+, where production rises by 2.0 million b/d in 2025 and by 0.7 million b/d in 2026. OPEC+ increases total liquids production by 0.6 million b/d in both 2025 and 2026, as the group unwinds crude oil production cuts. However, we expect OPEC+ production will remain below announced targets, preventing inventory builds from accelerating too quickly and limiting the decrease in oil prices.
- **U.S. crude oil production**. In July, U.S. crude oil production averaged more than 13.6 million b/d, the most in any month on record. Production in July was higher than we previously estimated, which raised the starting point for our U.S. crude oil production forecast. In addition, we raised our forecast for crude oil production in the Gulf of America as some projects are ramping up production faster than we had expected. Although we expect crude oil production will decline from its recent peak as oil prices fall, we now forecast U.S. crude oil production will average 13.5 million b/d in both 2025 and 2026. Our 2026 forecast increased by 0.2 million b/d from last month.

- **Natural gas prices.** The Henry Hub natural gas spot price in our forecast rises from just under $3.00 per million British thermal units (MMBtu) in September 2025 to $4.10/MMBtu in January 2026. Our January forecast price is almost 50 cents/MMBtu lower than it was in last month's outlook. Lower natural gas prices largely reflect our expectation that U.S. natural gas production will be higher than previously forecast, leading to more natural gas in storage compared with our previous forecast.

- **LNG export capacity.** We expect the United States will add 5 billion cubic feet per day (Bcf/d) in liquefied natural gas (LNG) export capacity in 2025 and 2026 as Plaquemines LNG and Corpus Christi LNG Stage 3 projects come online. We assess that additions to LNG export capacity will increase total LNG exports to 14.7 Bcf/d in 2025 and to 16.3 Bcf/d in 2026, up from 11.9 Bcf/d in 2024.

- **Coal consumption.** The electric power sector consumed 15% more coal in the first half of 2025 (1H25) than in 1H24, driven by higher electricity demand and higher natural gas prices. We expect the increase in coal consumption in the electric power sector to slow, rising by 4% in 2H25 compared with 2H24. Despite an increase in natural gas prices in 2026, we forecast coal consumption in the electric power sector to fall by 3% compared with 2025 as generation from utility-scale solar facilities increases.

Notable forecast changes
Current forecast: October 7, 2025; previous forecast: September 9, 2025

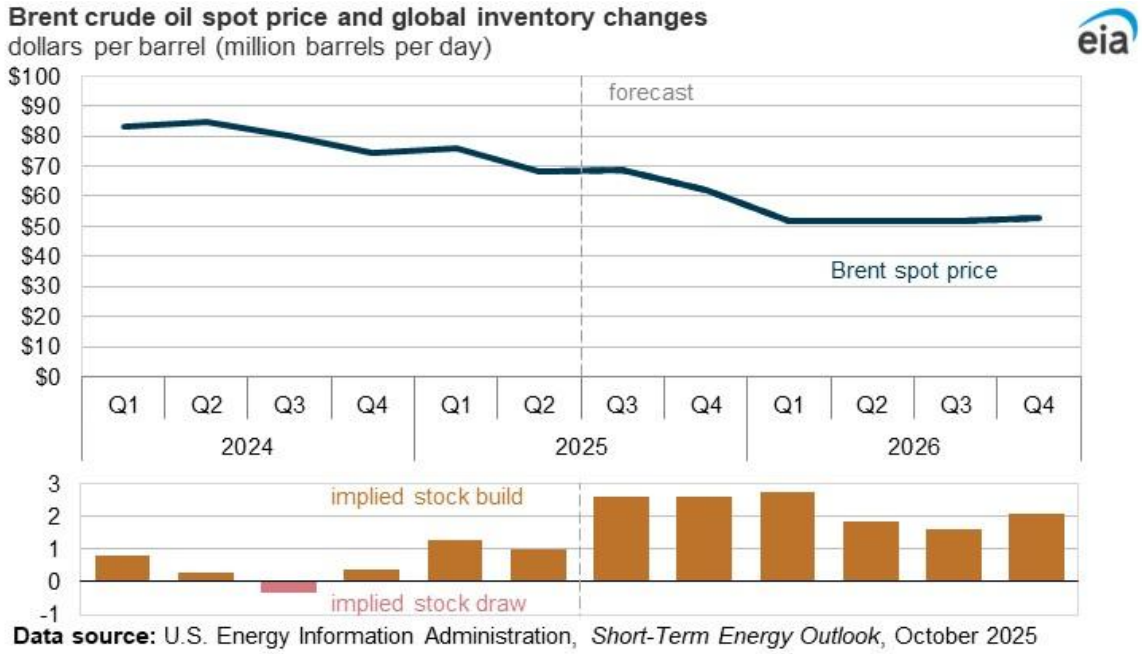
	2025	**2026**
U.S. crude oil production (million barrels per day)	**13.5**	**13.5**
Previous forecast	13.4	13.3
Percentage change	0.6%	1.6%
Henry Hub spot price (dollars per million British thermal units)	**$3.40**	**$3.90**
Previous forecast	$3.50	$4.30
Percentage change	-2.8%	-8.0%
U.S. dry natural gas production (billion cubic feet per day)	**107**	**107**
Previous forecast	107	106
Percentage change	0.5%	1.3%
U.S. natural gas inventories (billion cubic feet)	**3,380**	**3,020**
Previous forecast	3,280	2,830
Percentage change	3.0%	6.7%

Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*
Note: Percentages and changes are calculated from unrounded values.

Global Oil Markets

Global oil prices

Brent crude oil spot prices averaged $68 per barrel (b) in September, unchanged from the average in August. We forecast that growing global oil supply and the transition away from peak summer seasonal demand will lead to significant growth in global oil inventories over the forecast, causing crude oil prices to fall in the coming months. We forecast that oil prices will fall to an average of $62/b in the fourth quarter of 2025 (4Q25) and $52/b in the first half of 2026 (1H26). We expect inventory builds will average 2.6 million barrels per day (b/d) in 4Q25 and will remain elevated through 2026, putting significant downward pressure on oil prices.



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, October 2025

Global oil prices have remained stable in recent months despite global oil inventory builds—which we estimate as the difference between global oil supply and demand—averaging an estimated 1.9 million b/d from May through September. Several factors have likely offset strong growth in supply to keep prices relatively stable. One likely factor is China's additions to its oil stockpiles. China does not report data on its oil inventories. However, based on imports, exports, refining data, and oil inventory data from third-party and official sources, we assess that China has accumulated significant oil inventories this year. Because China's inventory builds have been strategic in nature, they have potentially acted as a source of demand, limiting downward price pressures more than our estimated balances would otherwise suggest.

It is also possible that global oil demand was higher over the summer than we currently estimate. The lag in actual oil demand data, particularly outside of the OECD, means that our estimates for global demand for 2Q25 and 3Q25 are still a mix of model results and initial data observations for much of the world.

Inventory builds in our forecast are significant even with our expectation that OPEC+ will produce below its targets in the coming months. Along with strong production growth among non-OPEC countries, the forecast increase in global oil inventories is based on the OPEC+ announcements to increase the group's oil production. OPEC+ began increasing production in April 2025, and for much of this year, the group's production has been close to its targets. Last month, the group increased production targets through October 2025, but there is uncertainty regarding some members' ability to reach the targets given near-term limits on spare capacity. We completed modeling and analysis for this forecast before the October 5 OPEC+ announcement that the group would increase production targets for November 2025.

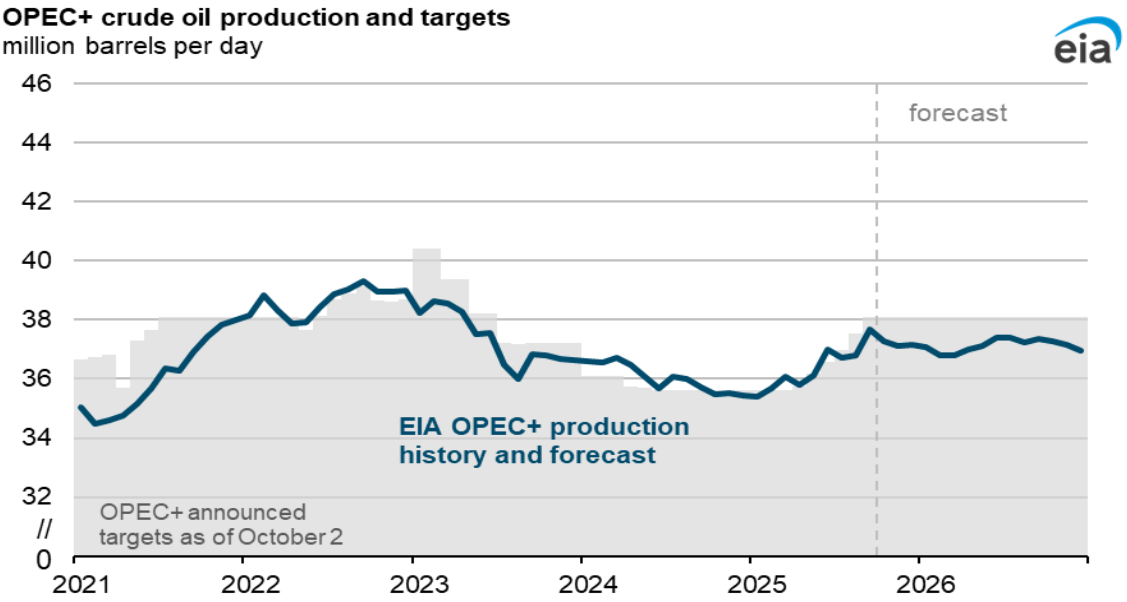
We forecast that global oil inventories will increase by an average of 2.1 million b/d in 2026, compared with an average annual increase of 1.9 million b/d this year. Inventory builds will be highest in 1Q26, averaging more than 2.7 million b/d. Strong inventory builds could fill commercial storage options on land, which would prompt market participants to seek other, more expensive options for storing crude oil, such as floating storage. As a result, some of the crude oil price declines will likely reflect the higher marginal cost of storage. We forecast that inventory builds will moderate later in 2026 due to a combination of higher global oil demand and slightly lower oil production growth, both in response to lower oil prices. We forecast that Brent crude oil prices will average $52/b in 2026, compared with an average of $69/b in 2025.

The pace at which China continues to purchase oil to fill inventory is a key uncertainty in our forecast. If China's builds continue at the pace estimated in recent months, crude oil prices could be higher than in our forecast. However, a slowdown in China's purchases of oil slated for inventory would likely put downward pressure on oil prices as more oil begins to show up in visible oil inventory data.

Other factors also contribute to significant uncertainty in our price forecast. Although we do not forecast any major supply disruptions, risks to oil supply remain. The ongoing tensions and negotiations related to the Russia-Ukraine conflict could affect supply, while further sanctions could be enacted against purchasers of Russia's oil. Geopolitical developments, including Ukraine's attacks on Russia's oil ports, have raised market concerns that oil production or exports could be disrupted. In addition, ongoing trade negotiations and legal challenges related to tariffs between the United States and its trading partners could affect economic and oil demand growth, with implications for oil prices. Lastly, given the expectations of significant oversupply beginning later this year, OPEC+ could revisit its plans for increased production, easing downward pressure on oil prices.

Global oil consumption and production

The planned increases to OPEC+ production and strong supply growth outside of the group continue to drive global liquid fuels production growth in our forecast. Forecast global liquid fuels production increases by 2.7 million b/d in 2025 and by another 1.3 million b/d in 2026. We expect countries outside of OPEC+ to lead our forecast total liquids production growth. Production from those countries rises by 2.0 million b/d in 2025, 0.3 million b/d higher than in last month's STEO, and by 0.7 million b/d in 2026. Specifically, we expect the United States, Brazil, Canada, and Guyana to drive production growth over the forecast period. Production in South America has been the leading source of growth as new offshore vessels have started up ahead of schedule in Brazil and Guyana this year, with additional projects still in development.



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, October 2025

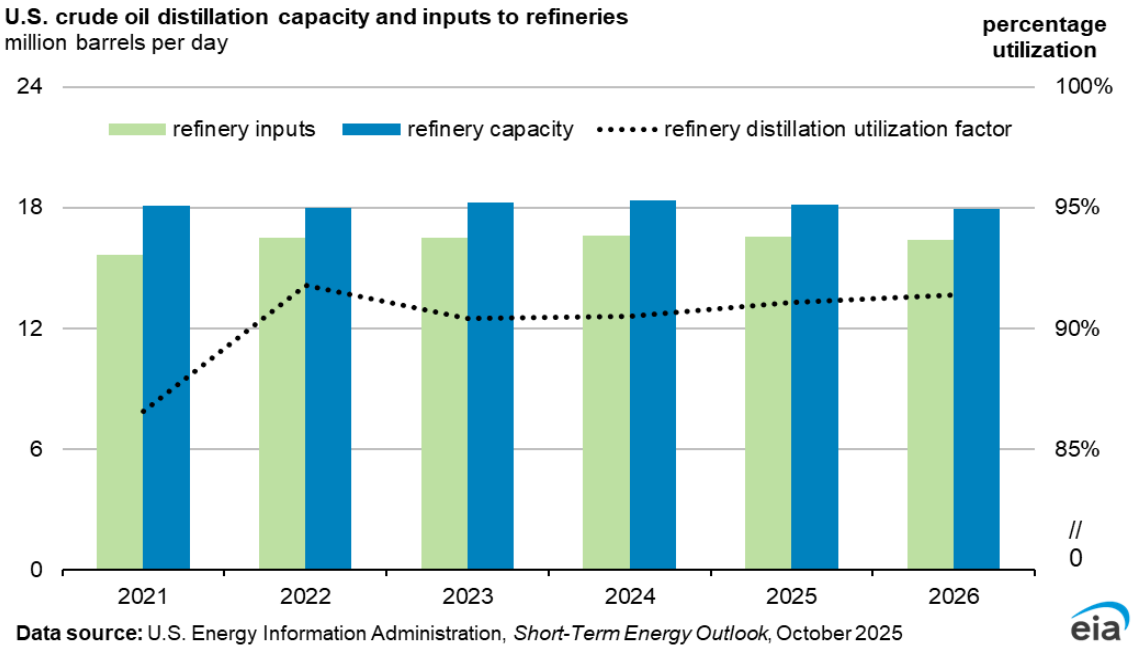
Forecast OPEC+ crude oil production increases by 0.5 million b/d in 2025 and 0.6 million b/d in 2026, based on our assumption that recent production increases due to higher OPEC+ targets will moderate as some members reach the practical limitations of their output and others aim to keep inventory builds from accelerating too quickly, limiting further decreases in oil prices.

Forecast global liquid fuels consumption increases by 1.1 million b/d in both forecast years. Global liquid fuels consumption growth is driven almost entirely by non-OECD countries, which grow by 1.2 million b/d in 2025 and 1.0 million b/d in 2026, while OECD consumption falls by 0.1 million b/d in 2025 before increasing by 0.1 million b/d in 2026. Most of non-OECD growth is concentrated in Asia, with liquid fuels consumption in India and China adding more than 0.4 million b/d of consumption by 2026 compared with 2024. Our demand forecast for China only includes final consumption and does not include inventory builds.

U.S. Petroleum Products

U.S. refinery inputs, capacity, and utilization

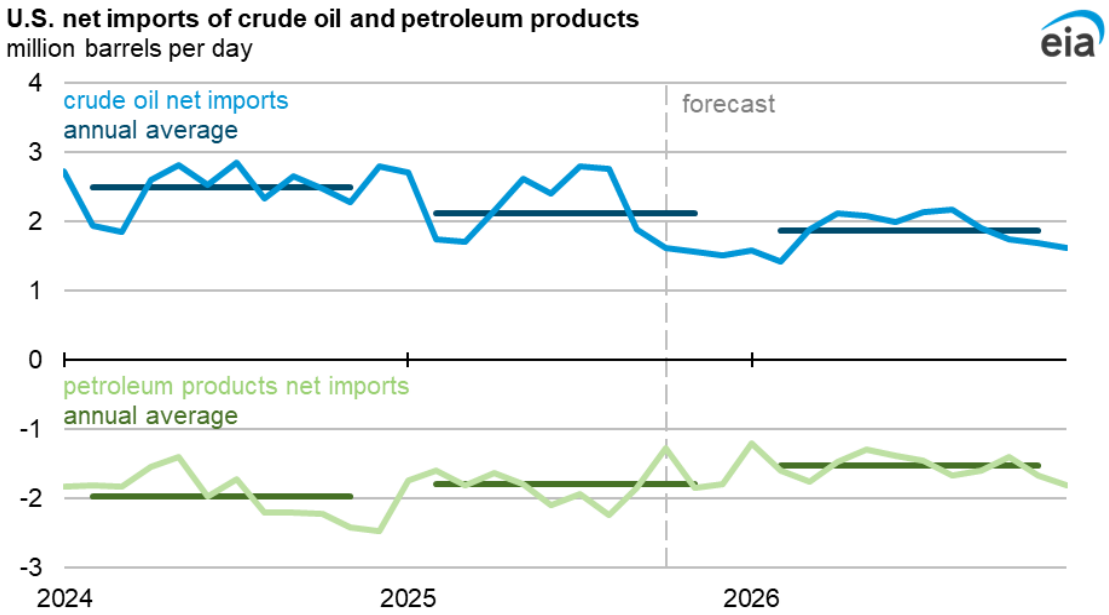
We forecast U.S. refinery capacity will be lower in 2026 than in 2025 because of planned closures at two refineries: Phillips 66's 139,000-barrel per day (b/d) Wilmington refinery in the Los Angeles area later this year; and Valero's 145,000 b/d Benicia refinery in the Bay area in early 2026. With less refinery capacity, crude oil inputs to refineries will also decrease. However, we expect the decrease in refinery inputs to be smaller than the decrease in refinery capacity as low product inventories support strong refinery margins that incentivize the remaining refineries to run at higher rates. As a result, we forecast refinery utilization will average 91.4% in 2026, up from 91.1% in 2025 and the highest annual average utilization since 2022. Our forecast was finalized before the fire at Chevron's 285,000-b/d El Segundo refinery outside Los Angeles significantly disrupted the flow of petroleum products from the facility.



U.S. net imports of crude oil and petroleum products

With less capacity to refine petroleum products domestically, we expect the United States will import less crude oil but import more petroleum products in 2026, as shown in our net import forecasts. Net imports are defined as total imports minus total exports.

Our forecast for refinery inputs decreases more than our forecast for crude oil production in 2026, resulting in crude oil inventory builds. With rising inventories, we forecast the United States will reduce net imports of crude oil to less than 1.9 million b/d in 2026 compared with 2.1 million b/d this year, the lowest annual average crude oil net imports in a year since 1971.



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, October 2025

Lower U.S. refinery inputs in 2026 also reduce our forecast for domestic production of petroleum products. At the same time, we expect the United States will consume about the same amount of petroleum products in 2026 as in 2025. As a result, we expect the United States—particularly the West Coast—will need to import more petroleum products to meet market demand. We forecast total net imports of petroleum products, not including biofuels and hydrocarbon gas liquids (HGLs), will increase to 1.5 million b/d in 2026, up 0.3 million b/d from 2025 and 0.4 million b/d from 2024.

Although we do not forecast net imports by region, we expect the increase in net imports to be concentrated on the West Coast (PADD 5), where the refinery closures will occur. Because the most consumed petroleum products on the West Coast are motor gasoline and jet fuel, we forecast U.S. net import growth to be more concentrated in those fuels. Distillate fuel oil comprises a smaller portion of total petroleum product consumption on the West Coast because of increased adoption of renewable diesel, particularly in California. In 2024, renewable diesel and biodiesel comprised more than one-third of total distillate consumption on the West Coast. We forecast renewable diesel production to increase in 2026, likely reducing the effects of lower refinery capacity on distillate fuel oil net imports.

Unlike the petroleum products discussed in this section, we expect net imports of HGLs to continue to decrease in 2026 as HGL exports continue to rise. We also forecast biofuel net imports to decrease because of higher renewable diesel exports.

Natural Gas

Natural gas prices

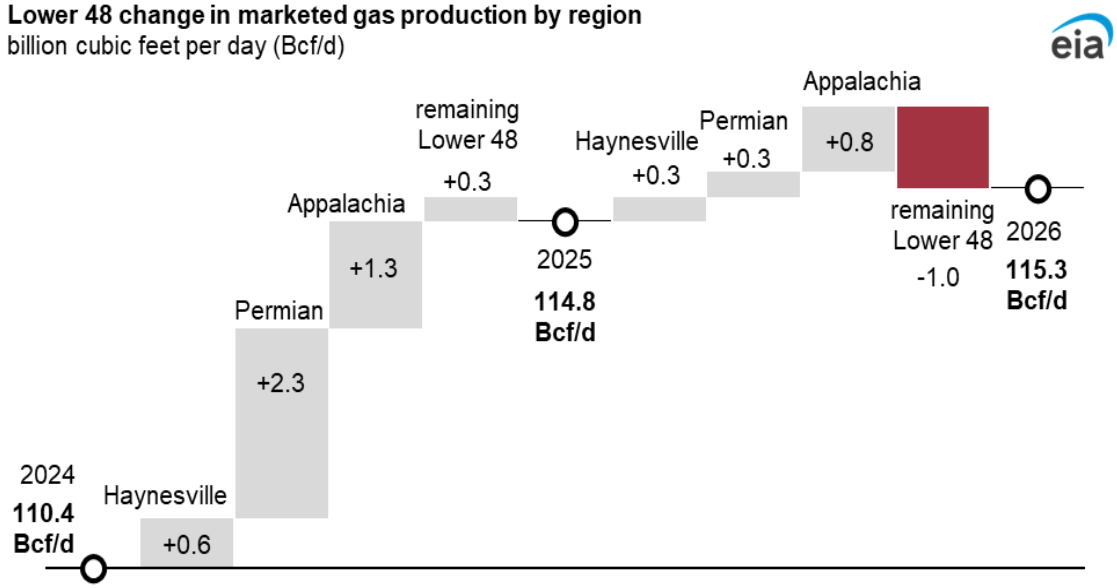
We expect the Henry Hub spot price to increase from around $3.00 per million British thermal units (MMBtu) in September to $4.10/MMBtu by January 2026, almost 50 cents/MMBtu lower than we forecast last month. We expect the Henry Hub price to average about $3.90/MMBtu overall in 2026.

Our lower price expectation reflects our forecast that natural gas production will be higher than we forecast last month, leading to more natural gas in inventory through the winter than previously expected. In addition to higher natural gas production in the forecast, since late August, above-average natural gas injections have increased storage levels heading into this winter. We now expect inventories to reach almost 3,980 billion cubic feet (Bcf) at the end of injection season, or 5% more than the five-year average. This forecast is almost 70 Bcf more than we forecast last month. These higher-than-expected stocks at the start of winter support more natural gas in storage throughout winter 2025–26, assuming near-normal temperatures. Natural gas inventories in our forecast end the withdrawal season on March 31 at 1,990 Bcf, 8% above the five-year average.

Natural gas production

We expect marketed natural gas production in the U.S. Lower 48 (L48) states to increase slightly in 2026 to an average of more than 118 billion cubic feet per day (Bcf/d) as growth from the three most prolific natural gas producing regions—the Appalachia, Permian, and Haynesville—is partly offset by declines from producing regions in the rest of the L48 states. Our forecast for U.S. marketed natural gas production in 2026 is 1.3 Bcf/d higher this month compared with the September STEO. We raised our expectations for natural gas production over the forecast based on data from July that showed natural gas production above our expectations, which increased the starting point for our forecast.

Lower 48 change in marketed gas production by region
billion cubic feet per day (Bcf/d)



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, October 2025

In 2026, we expect the combined production from the Appalachia, Permian, and Haynesville regions to account for 69% of overall U.S. production. We expect production in the Haynesville region to grow by 2% in 2026 to average 15.6 Bcf/d as higher natural gas prices has led to an increase in drilling activity in the region. For 1H25, rig counts in the Haynesville region rose by 7 to 39 rigs. We expect this trend to continue with the relatively higher forecast Henry Hub prices in 2026.

In the past, production in the Appalachia region has been constrained by limited takeaway capacity. But recently with the addition of the Mountain Valley Pipeline and demand growth from additional data centers in the Northeast that are increasing regional demand for electricity—including natural-gas fired generation—we expect production in Appalachia to grow by 2% in 2026 and average 37.6 Bcf/d.

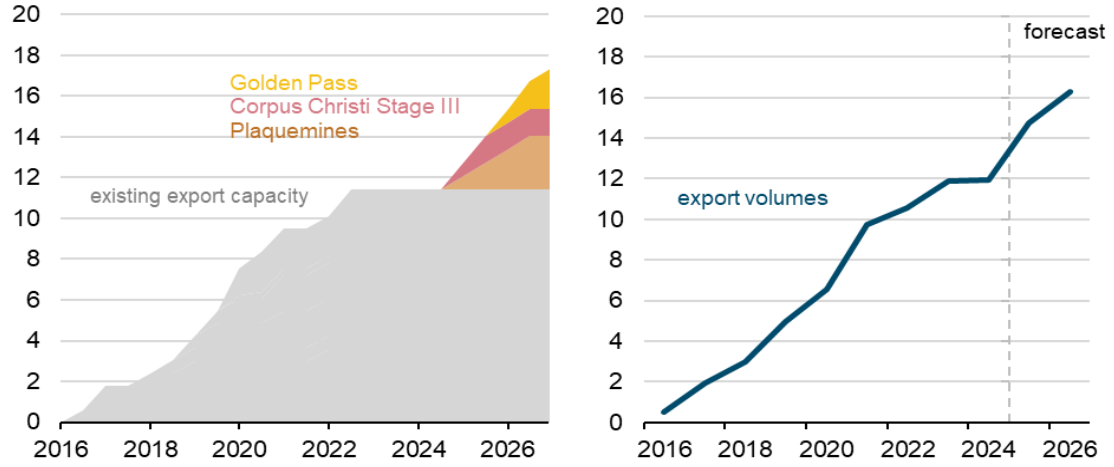
The Permian Basin has been the most prolific natural gas growth area in the past, and we expect the Permian region production to rise 9% (2.3 Bcf/d) this year. In the Permian region, growth in natural gas production is primarily the result of associated natural gas produced during oil production. As West Texas Intermediate (WTI) crude oil prices in our forecast fall in 2026, we expect Permian natural gas production growth to slow to 1% next year, reaching 28.0 Bcf/d.

The forecast decline in WTI prices also reduces associated natural gas production from other regions such as the Eagle Ford, Anadarko, and Niobrara regions.

LNG export capacity

The United States is scheduled to add more than 5 Bcf/d in liquefied natural gas (LNG) export capacity combined over 2025 and 2026. In 2025, we expect Plaquemines LNG Phases 1 and 2 and three trains of Corpus Christi LNG Stage 3 to enter into service. Plaquemines LNG Phase 1 sent out its first cargo in December 2024, and Phase 2 began production in July 2025, earlier than our previously expected start-up date of 2026. By the end of 2025, we forecast all blocks will begin exports, adding 2.6 Bcf/d of nominal LNG export capacity and 3.2 Bcf/d of peak export capacity, driving most of the increase in LNG exports compared with 2024. We forecast that Corpus Christi LNG Stage 3 will begin exports from three of seven trains in 2025, bringing an estimated 0.6 Bcf/d of nominal capacity (0.7 Bcf/d peak capacity) into service in 2025.

U.S. LNG export capacity additions and export volumes
billion cubic feet per day



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, October 2025

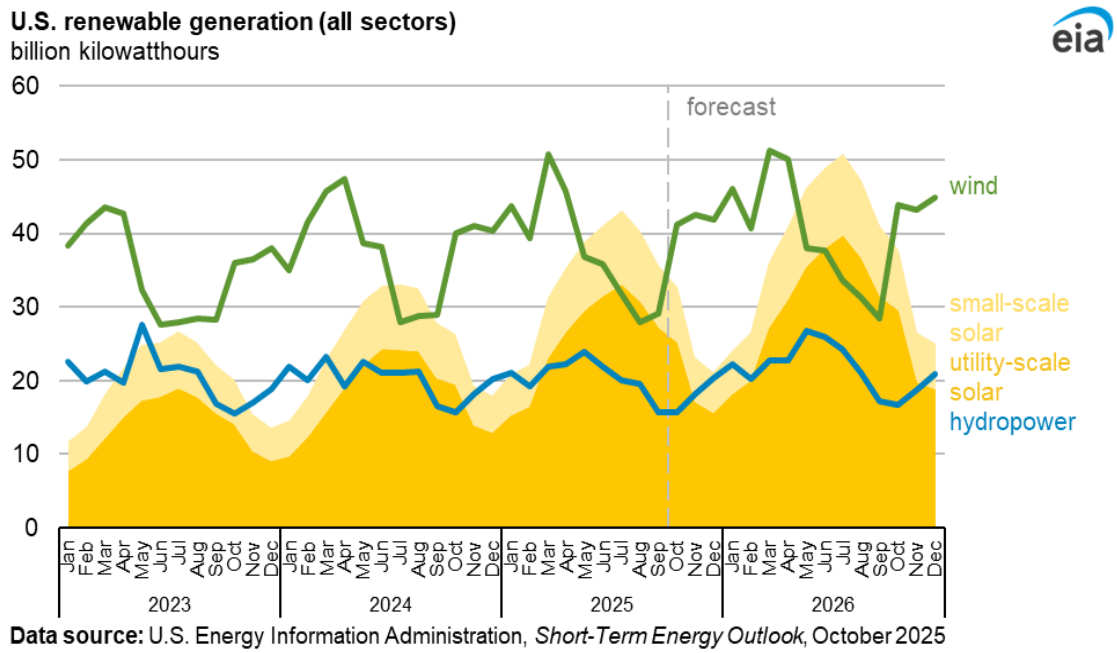
In 2026, we expect the remaining four trains in Corpus Christi LNG Stage 3 to enter service, as well as two of three trains from Golden Pass LNG. The four trains at Corpus Christi will boost nominal capacity by a total of 0.8 Bcf/d (0.9 Bcf/d peak capacity). We expect Golden Pass LNG, which is currently under construction, to ship its first cargo in 1H26, and for Train 2 to start up later in the year. These start-ups

will add 1.4 Bcf/d of baseload export capacity (1.6 Bcf/d peak capacity) in 2026. We forecast these capacity increases will raise U.S. LNG exports to an annual average of more than 16 Bcf/d in 2026, compared with less than 12 Bcf/d in 2024.

Electricity, Coal, and Renewables

Electricity generation

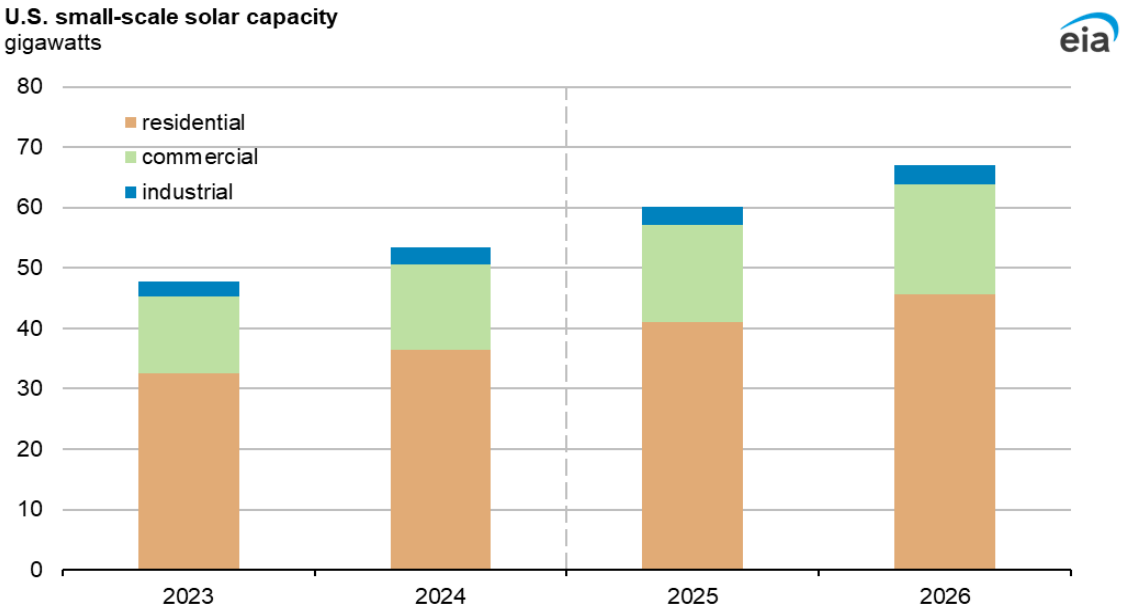
Total electricity generation from all sectors in 2025 is likely to reach more than 4,400 billion kilowatthours (BkWh), a 2% year-over-year increase from last year. We expect utility-scale renewable sources, including conventional hydropower, to generate 9% more electricity in 2025 compared with last year, bringing utility-scale renewables generation above 1,000 BkWh. This total does not include electricity supply from small-scale solar sources.



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, October 2025

We forecast electricity generation from small-scale solar to continue growing through 2026, contributing more than 90 BkWh in 2025 and almost 110 BkWh in 2026. On a monthly basis, total solar electricity supply from both small-scale solar and utility-scale solar first surpassed wind in July and August 2024. In 2025 and 2026, electricity supply from solar resources is expected to surpass wind resources from May through September.

Total solar electricity supply in our forecast is 380 BkWh in 2025, including small-scale solar, while wind generates 470 BkWh. In 2026, we expect solar will generate 17% more electricity than it has this year, approaching 450 BkWh. Wind generates 490 BkWh in our forecast for 2026, 5% more than this year.

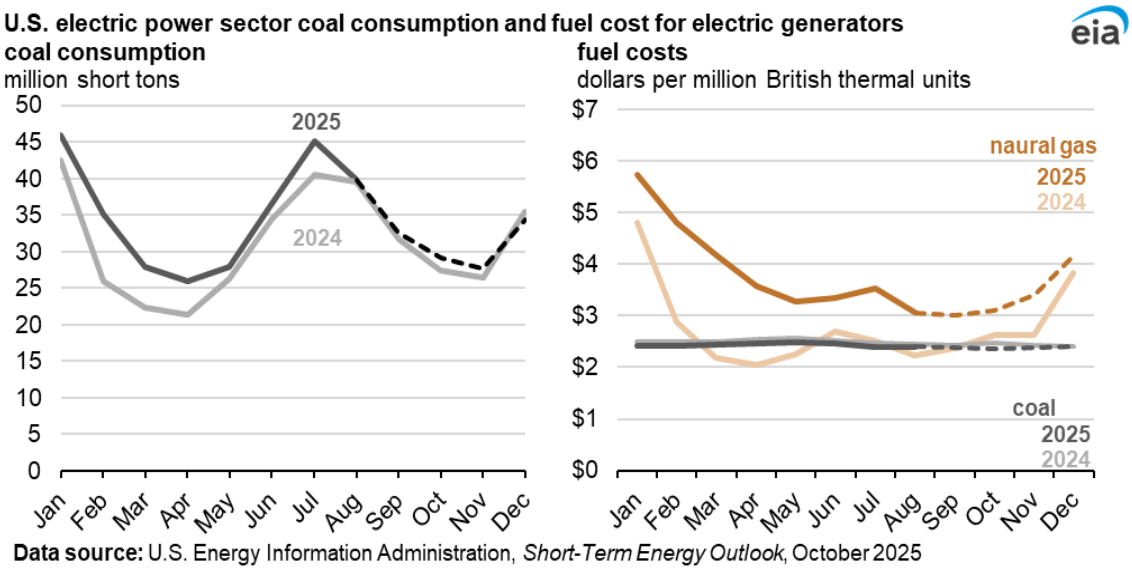


Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, October 2025

Most of the small-scale solar capacity, which is defined as being less than 1 megawatt, comes from the residential sector. In 2025, 68% of small-scale solar will come from rooftop solar installations in the residential sector. Total capacity is expected to be 60 gigawatts (GW) in 2025 and 67 GW in 2026.

Coal markets

During the first half of 2025 (1H25), the U.S. electric power sector consumed 199 million short tons (MMst) of coal, which was 15% more than the amount consumed in 1H24. This increase was driven by more overall electricity demand and by higher costs for natural gas generation, which is a competing electricity generation source in many areas of the country. We expect that U.S. coal consumption during 2H25 will be about 4% higher than in 2H24, reflecting lower prices for natural gas compared with earlier in the year.



Data source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, October 2025

The winter months in early 2025 were relatively cold, especially in January in the Southeast where many households use electricity for space heating. The cold weather resulted in more coal-fired power plants generating electricity than in the milder winter of 2024.

The price of natural gas delivered to electric generators during 1H25 averaged $4.17/MMBtu, which was 46% higher than in the same period in 2024. We forecast that the delivered price of natural gas in 2H25 will average about $3.40/MMBtu, which is 27% higher than a year earlier.

In 2026, we forecast the U.S. power sector will consume 390 MMst of coal, about 3% less than 2025 annual consumption. Although natural gas prices paid by electric generators in our forecast rise by 10% next year, we expect that increased generation from new utility-scale solar facilities, particularly in the Midwest, will lead to less output from coal-fired plants.

The electric power sector is reporting to us that it expects to retire about 4% of existing coal-fired generating capacity by the end of 2025. This reported decrease also contributes to our expectation that less coal will be consumed in 2026. However, recent announcements by the Department of Energy to invest in America's coal industry could affect plant retirement decisions and encourage more coal-fired generation.

Economy, CO_2, and Weather

U.S. macroeconomics

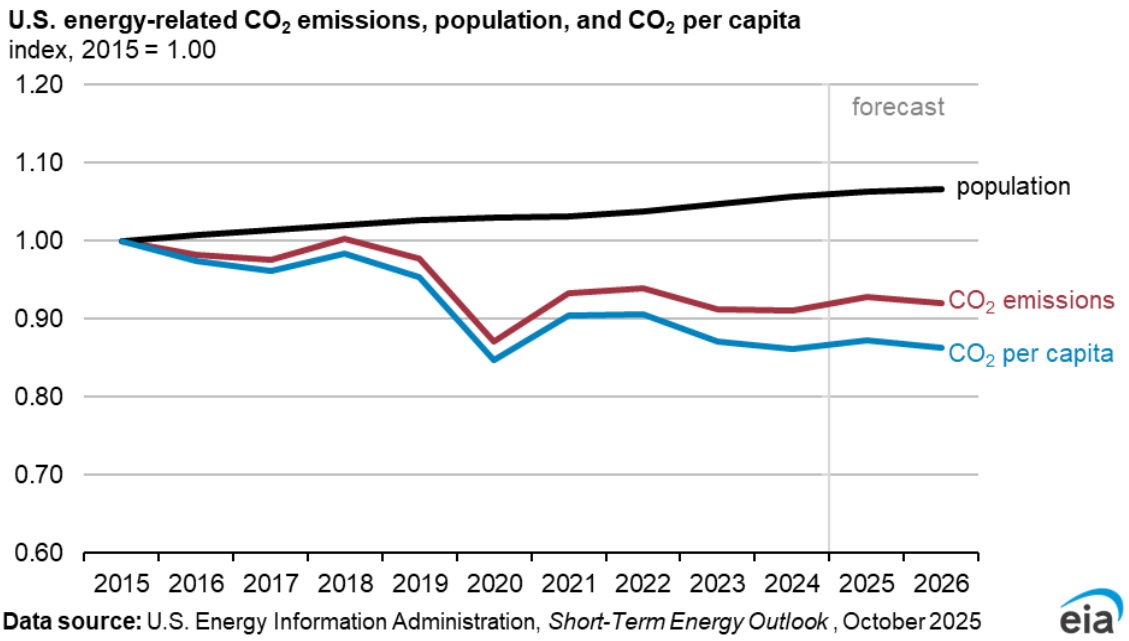
This month's forecast assumes that real GDP will grow at an annualized rate of 1.8% in 2025 and 2.4% in 2026. The 2025 forecast is an upward revision of more than 0.1 percentage points from last month. The forecast increased as real GDP growth in the second quarter of 2025 (2Q25) was revised higher and real consumer spending increased in both July and August after stalling in the first half of the year. The U.S. Bureau of Economic Analysis's (BEA) Third Estimate of 2Q25 GDP, released on September 25 (after the macroeconomic assumptions were finalized), showed that GDP grew at an annualized rate of 3.8% in 2Q25, 0.5 percentage points above the Second Estimate. All else equal, this report will likely result in another upward revision to 2025 GDP growth in next month's forecast.

The macroeconomic assumptions in the STEO 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 forecast U.S. energy-related carbon dioxide (CO_2) emissions to increase by 1.8% in 2025, followed by a decrease of 0.7% in 2026. The largest changes in emissions for both years are attributable to shifting coal consumption for power generation.

We assume the population continues to grow in both 2025 and 2026. It follows from our emissions forecast that CO_2 per capita will rise in 2025 and fall in 2026.



Weather

As we transition into the winter months, we assume cooler temperatures in the fourth quarter of 2025 compared with the same period in 2024 to contribute to 9% more heating degree days (HDDs) in 2025 compared with 2024. Based on our current forecasts and data from the National Oceanic and Atmospheric Administration, our forecast assumes the United States will experience a cooler October this year compared with last, with about 220 heating degree days (HDDs) in October, 19% more HDDs than in October 2024, but the same HDDs than the 10-year monthly average.

Overall, our forecast assumes the 2025–2026 winter heating season (November–March) will be cooler than the previous winter season with a total of 3,150 HDDs (3% more HDDs), increasing energy use for space heating this winter. Our expectations for energy expenditures for the 2025–2026 winter season are outlined in our *Winter Fuels Outlook,* which will be released on October 15.