

## News : Rapid renewable expansion driving down gas, coal generation in coming years: EIA

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- **US solar** capacity to almost double by 2025: **FERC**
- **Texas , California** account for most **solar** growth: **EIA**

The rapid expansion of **renewables** in the **US electricity** generation mix, driven by declining construction costs and favorable tax credits, will reduce **coal**-fired and **natural gas**-fired generation over the next two years, according to the **US** Energy Information Association.

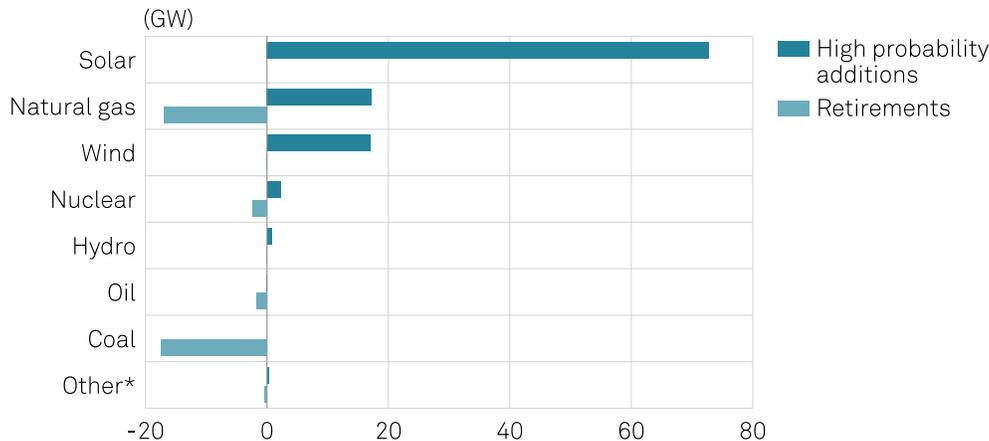
**Wind** and **solar** will account for 16% of total generation in 2023, doubling from five years ago, according to the **EIA** . Year over year, **coal** is forecast to fall 2 percentage points to 18% of the mix in 2023, while **gas** is expected to fall from 39% to 38%.

“One of the most significant shifts in the mix of **US electricity** generation over the past few years has been the rapid expansion of **renewable** energy resources, especially **solar** and **wind** ,” the **EIA** said in a Jan. 19 statement.

Overall, total generating capacity is projected to increase 5.7% between December 2022 and November 2025 with a net increase of 71.391 GW, according to the **Federal Energy Regulatory Commission** 's latest Energy Infrastructure Update. During that same time, **solar** is expected to add 72.809 GW, nearly double all other fuels additions combined.

By November 2025, total **renewables** – **wind , solar , hydro , biomass** and **geothermal** – are expected to account for 32.5% of generating capacity across the **US** , according to **FERC** projections.

### Generating capacity additions and retirements (December 2022–November 2025)



\*includes biomass, geothermal, water heat, purchased steam, tires, and miscellaneous technology such as batteries, fuel cells, energy storage and fly wheel.

Source: FERC

### Solar growth

The **US electric power** sector operated about 74 GW of **solar photovoltaic** capacity at the end of 2022, which is about three times the capacity from 2017, according to the **EIA** . Based on planned additions reported to **EIA** , **solar** capacity is expected to add another 63 GW, or grow by 84%, by the end of 2024, which is consistent with its declining construction costs and favorable tax credits.

“As a result of this expected increase in **solar** capacity, **we** forecast that the **solar** generation share will rise from 3% of **US** generation last year to 5% in 2023 and 6% in 2024,” the **EIA** said.

In **FERC** 's projections, 72.809 GW of **solar** capacity additions are expected by November 2025, which would nearly double the current **solar** capacity of 78.88 GW to reach 151.69 GW.

However, S&P Global Commodity Insights analyst Morris Greenberg said **renewable** project costs are not declining, but rather have been increasing during the past two years – though that is also true of **gas** projects – and interconnection costs are rising.

“In the longer run, the tax incentives in the Inflation Reduction Act will lead to a development boom, again particularly for **solar** , with offshore **wind** growth supported by state policy targets,” Greenberg said.

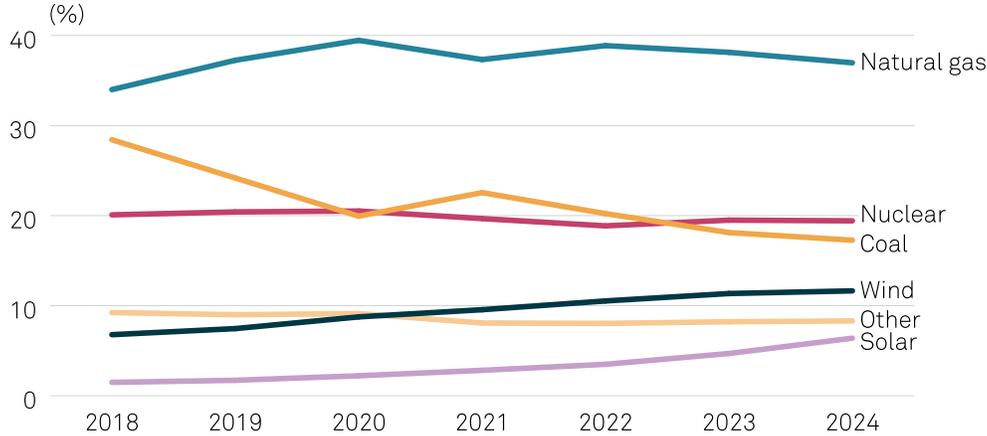
**Texas** and **California** continue to **lead the US in solar capacity growth**, which are both states where **natural gas** has been the primary source of **electricity** , according to the **EIA** .

### Natural gas decline

“A growing share of generation from **renewables** , combined with our forecast of less overall **electricity** demand this year, displaces some **natural gas** generation, which will decline slightly, falling from 39% in 2022 to 38% this year and to 37% in 2024,” according to the **EIA** . “**We** also expect that the

coal generation share will decline by two percentage points to 18% this year, as lower natural gas fuel costs make coal a less competitive source for electricity supply. Our forecast of coal generation falls again in 2024 to 17%.”

## US electricity share of total generation (2018-2024)



Source: EIA

While Greenberg said he agrees that increasing renewable, especially solar, capacity will tend to reduce combined coal and gas generation, he doesn't necessarily agree with the level of capacity additions the EIA projects.

“The potential for slower demand growth (or a decline in case of a recession) would also be negative for gas and coal,” Greenberg said. “Weaker gas prices imply that coal may take most of the hit.”

FERC projects 17.385 GW of coal retirements by November 2025, a drop of 8% from December 2022, while natural gas is projected to add 17.260 GW which is nearly cancelled out by a projected 16.954 GW in retirements during the same time.

## Wind growth

US wind power has grown by more than 60% since 2017 to about 143 GW of capacity by the end of 2022, according to the EIA. However, scheduled growth in wind power is slightly slower for 2023 than in recent years, with about 12 GW of new planned capacity over the next two years.

The 2023 forecast wind generation share remains relatively similar to last year at an average of 11% and increases to 12% in 2024, according to the EIA data.

In FERC's projections, wind is expected to add 16.955 GW to reach 159.835 by November 2025, factoring in 140 MW of retirements.

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