

Solar is EU's biggest power source for the first time ever

Solar became the EU's largest source of electricity for the first time in June 2025. National records for solar and wind rolled in across EU countries in May and June, pushing coal to an all-time low.

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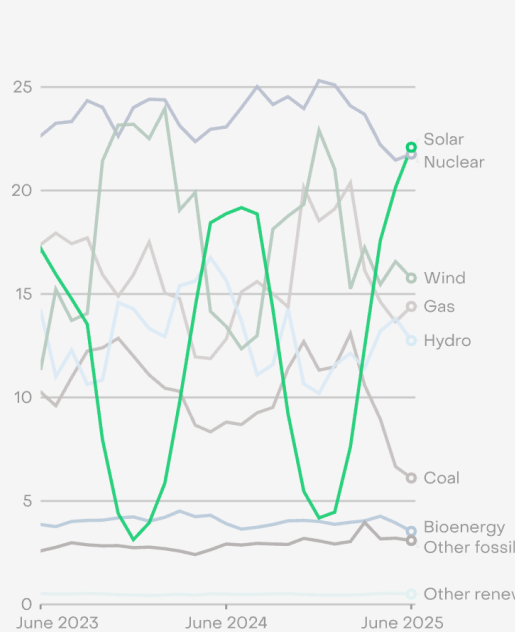
Solar takes top spot in the EU for the first month ever

In June 2025, solar was the largest source of EU electricity for the first time, with multiple countries producing record amounts of solar power. Wind power in the EU started the summer strongly, with the highest ever generation for the months of May and June.

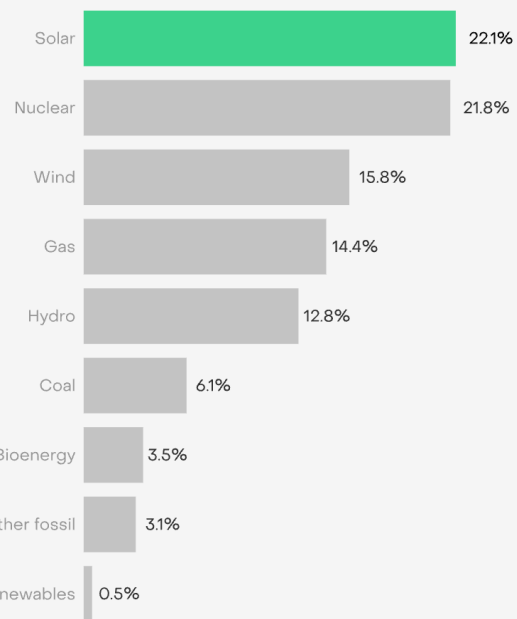


Solar was the largest power source in the EU for the first month ever in June

Share of electricity generation (%)



Ranked: Share of electricity generation, June 2025



Source: Monthly electricity data, Ember, ember-energy.org/data/electricity-data-explorer

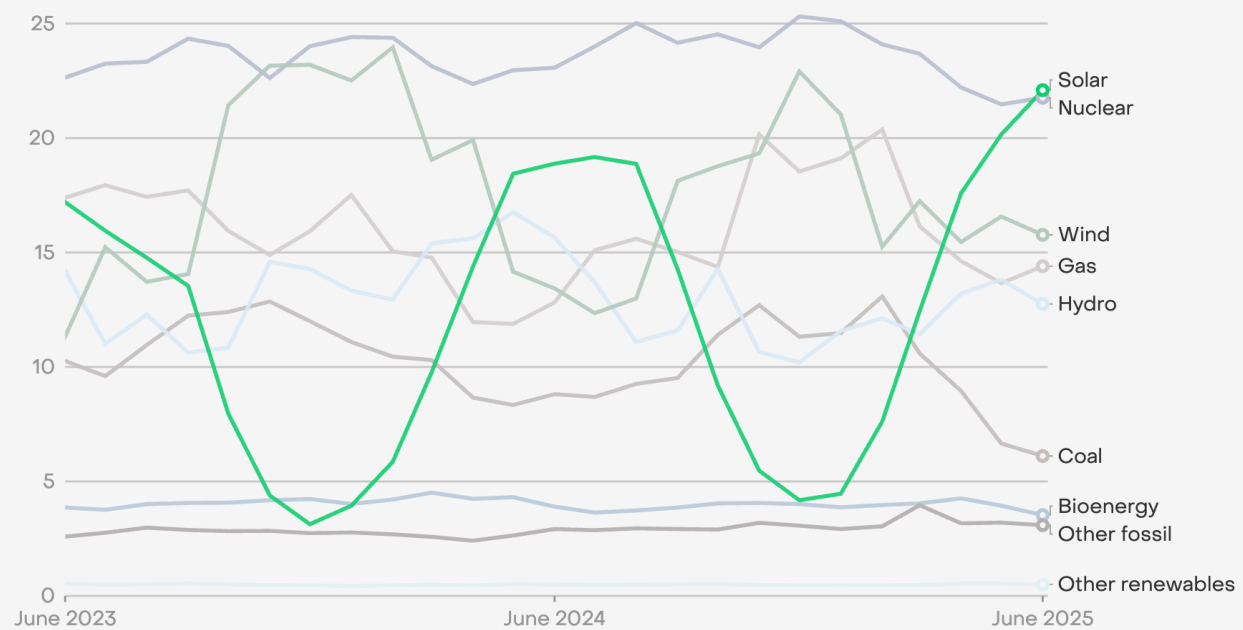


Solar was the largest power source in the EU for the first month ever in June

Solar power generated 22.1% of EU electricity (45.4 TWh) in June 2025, more than any other power source. This is an increase of 22% from June 2024. In second place was nuclear with 21.8% (44.7 TWh), followed by wind with 15.8% (32.4 TWh).

Solar power just became the EU's single largest source of electricity generation for the first month on record

Share of electricity generation (%)



Source: Monthly electricity data, Ember, ember-energy.org/data/electricity-data-explorer



At least thirteen EU countries set new monthly solar records

Solar reached new highs in the majority of EU countries in June 2025, with at least thirteen countries recording their highest ever month of solar generation. These

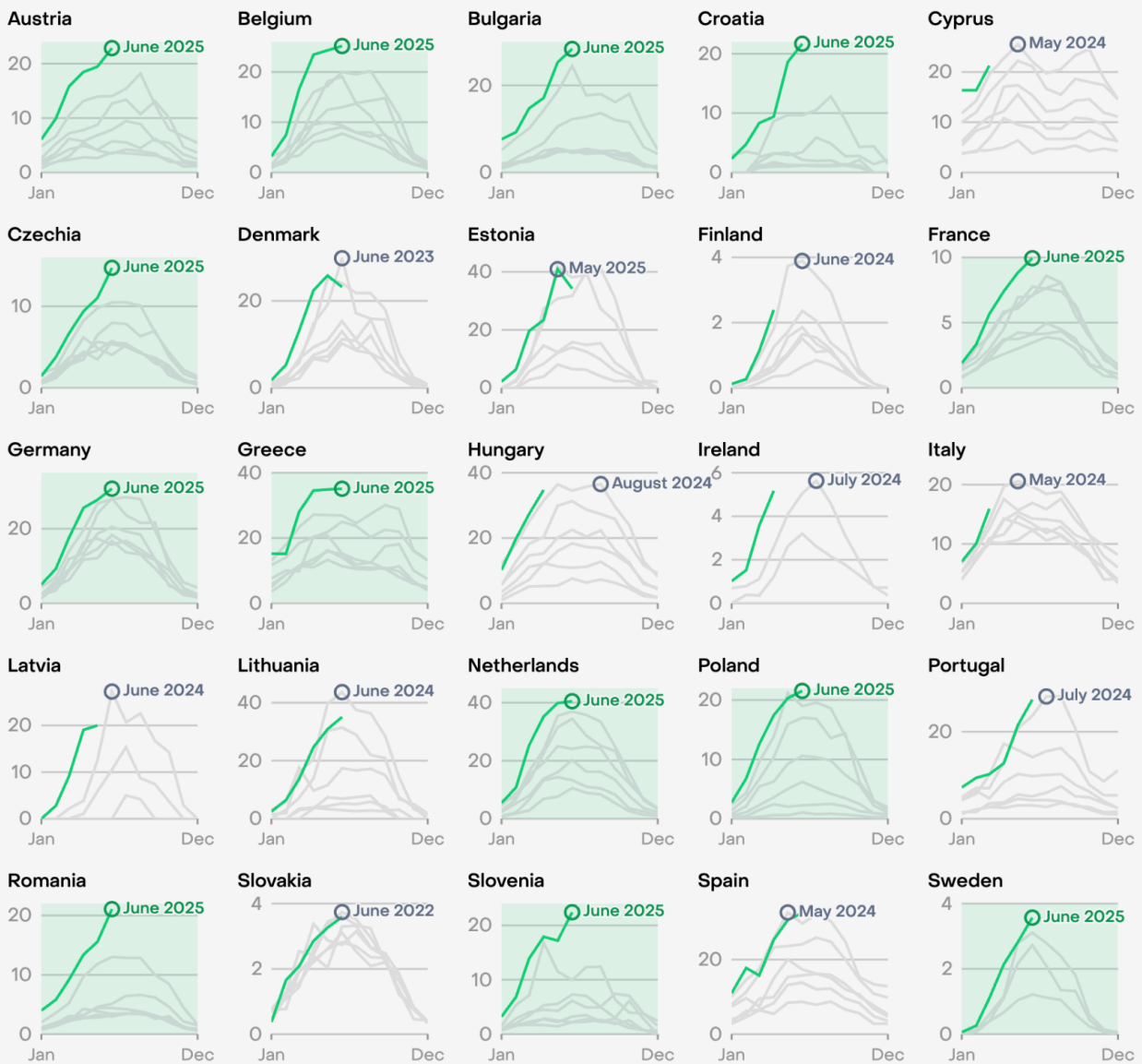
solar records are largely a result of continuing installations of solar in recent years, alongside stretches of hot and sunny weather. Record solar helped the EU power system to handle [higher levels of demand resulting from heatwaves](#) that gripped the continent towards the end of June.

At least 13 EU countries recorded their highest-ever solar power contribution in June 2025

Share of electricity generation from solar (%)

Countries highlighted in green set new records in June 2025

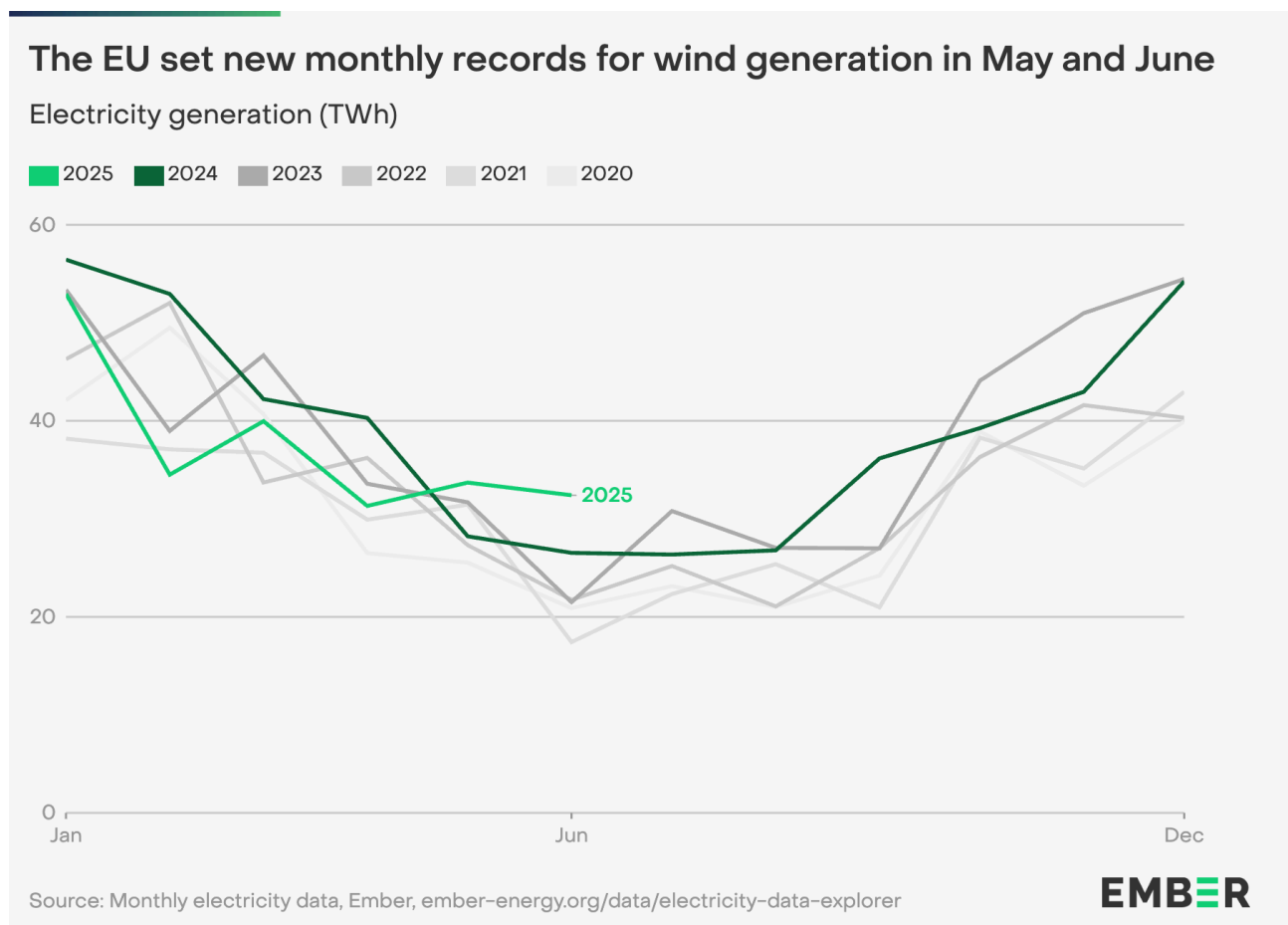
● Record in June 2025 ● Record pre-June 2025 ● 2025 ● Previous years



Source: Monthly electricity data, Ember, ember-energy.org/data/electricity-data-explorer
 Data for Cyprus, Finland, Hungary, Ireland, Italy, and Latvia is not shown for some months due to data unavailability as of date of publication in July 2025. Malta and Luxembourg are excluded from this graphic due to low absolute electricity generation values.

EU wind power sets May and June records, after a difficult start to 2025

This year, wind farms generated 16.6% (33.7 TWh) and 15.8% (32.4 TWh) of EU electricity in May and June respectively, the highest amounts ever in these months. This marks an impressive turnaround from relatively poor wind conditions at the start of the year. While wind conditions were the main driver, new wind capacity has continued to be added since June 2024, with several large offshore wind farms commissioned over this period.



Coal falls to a record low

As a result of high renewable generation, coal generated the lowest ever share of EU electricity in June 2025. Total fossil generation was also low in June, but has increased over the first half of 2025, mainly due to unusually low hydropower and wind generation, and increasing demand.

Coal generated just 6.1% (12.6 TWh) of EU electricity in June 2025, down from 8.8% in June 2024. The two countries that account for the vast majority of EU coal power (79% in June) both saw record lows in June, with Germany generating just 12.4% (4.8 TWh) of its power from coal, and Poland 42.9% (5.1 TWh). Four other countries recorded their lowest ever month of coal generation in June: Czechia (17.9%), Bulgaria (16.7%), Denmark (3.3%) and Spain (0.6%), which is approaching coal phase-out.

Coal generation in the EU fell to a record low in June 2025

Share of electricity generation (%)



Source: Monthly electricity data, Ember, ember-energy.org/data/electricity-data-explorer

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Fossil fuels generated 23.6% (48.5 TWh) of EU electricity in June 2025, just above the record low of 22.9% in May 2024. Despite these lows in June, fossil generation in the first half of 2025 was 13% higher (+45.7 TWh) than in the first half of 2024, mainly due to higher levels of gas generation which increased by 19% (+35.5 TWh).

This increase in gas generation in the first half of 2025 is partly explained by lower levels of hydro and wind generation in the first half of 2025 compared to a year earlier. The ongoing drought meant that the cumulative share of hydro in the power mix from January until June fell to 12.5% (164 TWh), a 15% decrease compared to the same period last year.

Electricity demand as a whole continues its upwards trajectory. In the first half of 2025 the EU consumed 1,313 TWh of electricity, a 2.2% increase over last year. Five out of the first six months in 2025 saw higher demand than the same month in 2024.

Europe is becoming a solar powerhouse. European nations are harnessing the abundant resources of sunshine and wind like never before. The growth of low-cost renewables is gradually getting Europe's energy system off the rollercoaster of fossil energy prices. The big opportunity now comes from adding battery storage and flexibility to extend the use of renewable power into mornings and evenings, where fossil fuels still set high power prices.

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Supporting information

About Ember

Ember is an independent, not-for-profit energy think tank that aims to shift the world to clean electricity using data. It gathers, curates and analyses data on the global power sector and its impact on the climate, using cutting edge technologies and making data and research as open as possible. It uses data-driven insights to shift the conversation towards high impact policies and empower other advocates to do the same. Founded in 2008 as Sandbag, it formerly focused on analysing, monitoring and reforming the EU carbon market, before rebranding as Ember in 2020. Its team of electricity analysts and other support staff are based around the world in the EU, UK, Türkiye, India, China and Indonesia.

Methodology

All data and analysis in this report are based on Ember's open-access [monthly electricity generation data](#).