

# ‘Rising star’: Europe made more electricity from solar than coal in 2024

Report reveals solar power generated 11% of Europe’s electricity, surpassing coal at 10%

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Europe generated more electricity from solar than coal in 2024, marking a key milestone in the clean energy transition. Photograph: Dominika Zarzycka/NurPhoto/Rex/Shutterstock

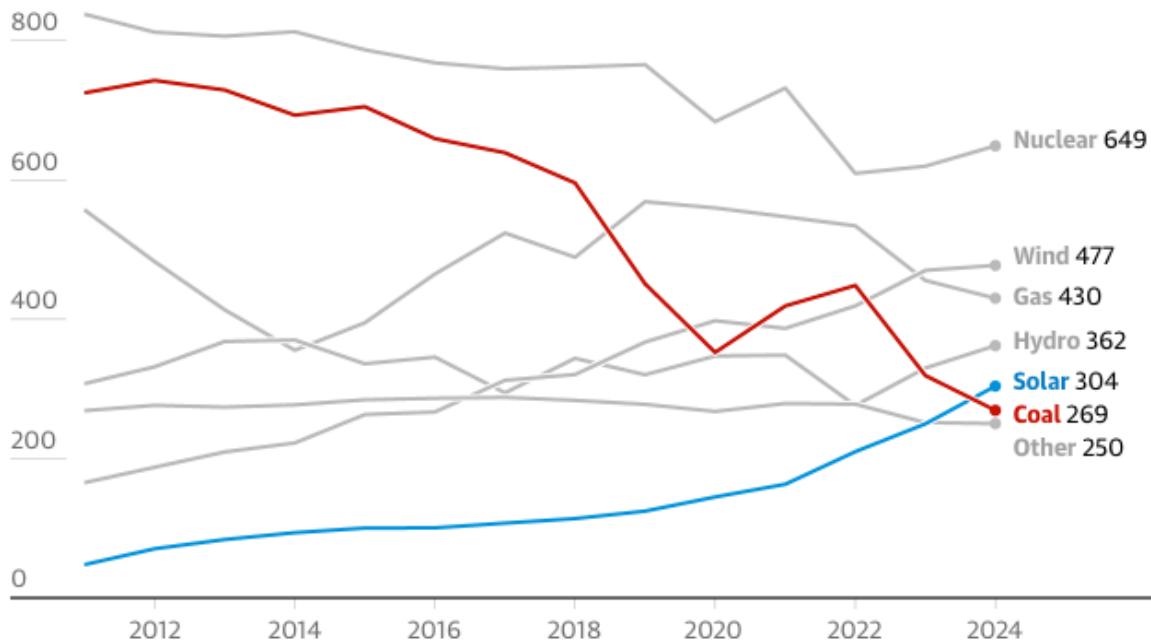
Europe made more electricity from sunshine than coal last year, a report has found, in what analysts called a “milestone” for the clean energy transition.

Solar panels generated 11% of the EU’s electricity in 2024, while coal-burning power plants generated 10%, according to [data](#) from climate thinktank Ember. The role of fossil gas fell for the fifth year in a row to cover 16% of the electricity mix.

“This is a milestone,” said Beatrice Petrovich, co-author of the report. “Coal is the oldest way of producing electricity, but also the dirtiest. Solar is the rising star.”

## EU solar power generation has overtaken coal for the first time

Electricity generation, TWh



Guardian graphic. Source: Ember

Europe’s industrialisation was powered by coal but the fuel has pumped out more planet-heating pollution than any other energy source. Coal-burning in the EU power sector peaked in 2007 and has halved in the years since.

At the same time, clean sources of electricity have boomed. Wind and solar energy rose to 29% of EU electricity generation in 2024, while hydropower and nuclear energy continued to rebound from the 2022 lows.

The report attributed the rise of solar – the fastest-growing power source last year – to a record amount of new panels, despite Europe getting less sunshine than the year before.

“It’s good news that the increase in solar build is actually translating to a reduction in fossil fuel burn,” said Jenny Chase, a solar analyst at BloombergNEF, who was not involved in the report.

The report found the share of coal fell in 16 of the 17 countries that still used it in 2024. It said the fuel has become “marginal or absent” in most systems.

Germany and Poland, the two countries that burn most of Europe's coal, were among those where there was a shift to cleaner sources of energy. The share of coal in Germany's electricity grid fell 17% year-on-year, while in Poland it dropped 8%, the report found.

Fossil gas also continued to experience a "structural decline", falling in 14 of the 26 countries that use gas power, the report found.

The findings come despite a small increase in electricity demand after two years of steep decline brought on by Russia's full-scale invasion of Ukraine. In response, the EU introduced a plan to save energy, find new fossil fuel suppliers, and speed up the shift to clean energy.

"Policy and markets in Europe have enabled renewables to drive down the shares of both coal and natural gas," said Gregory Nemet, an energy researcher at the University of Wisconsin-Madison and co-author of an Intergovernmental Panel on Climate Change report.

"Wind and solar are growing in all large economies, but coal has continued to grow in China and natural gas has grown in the US," he added. "Europe is taking advantage of the full swath of affordability, security, and clean air benefits that renewables provide."

The report found the EU was on track to meet its target of 400GW of installed solar capacity by 2025. It hit 338GW in 2024, the report found, and would be "within reach" of its 2030 target of 750GW if it maintained the current pace of growth.

The report's authors called for investments in batteries, smart meters and other forms of "clean flexibility" that can help align the supply of renewable energy, which varies throughout the day, with demand.