

EU fossil generation below 25% for the first month ever

The EU reached a major milestone in its electricity transition in April 2024. For the first time, fossil fuels generated less than a quarter of the EU's electricity in a single month, with strong wind and solar spearheading the electricity transition.

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In April 2024, the EU's electricity generation from fossil fuels fell to a record low of 23%. Fossil generation fell sharply compared to April 2023, even as electricity demand increased. This led to a 22% year-on-year fall in power sector emissions. Wind and solar growth and a recovery in hydro drove the fall in fossil generation, contributing to the largest ever renewables share of 54%. Wind and solar reached a record high in April 2024, generating more than a third of EU electricity for the first time. While April stands out, it is part of an established shift as Europe's electricity transition continues to charge ahead, with power sector emissions down 18% in the first four months of 2024, compared to the same period in 2023.

Fossil fuels provide less than a quarter of EU electricity

In April 2024, the share of EU electricity generation from fossil fuels fell to its lowest point for a single month. Coal, gas and other fossil fuels produced less than a quarter of the EU's electricity (23%). The previous record low was 27% in May 2023.

Last year fossil fuels generated less than a third of the EU's electricity (33%) for the first time, according to Ember's [European Electricity Review](#). The decline in fossil fuels has continued to gather pace in 2024.

Generation from fossil fuels in April 2024 was down 14.8 TWh (-24%) compared to April 2023. As a result, EU fossil generation reached its lowest monthly level, at 46 TWh.

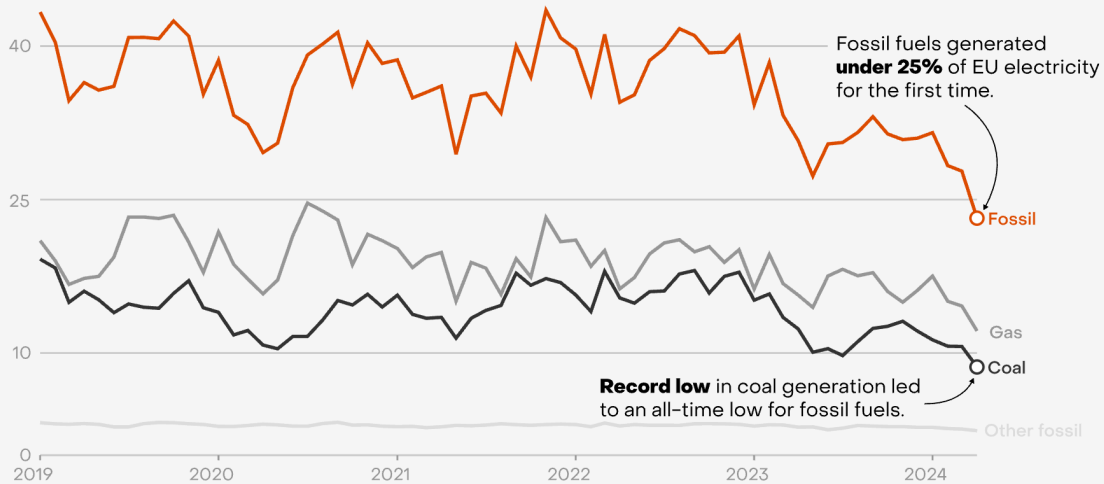
Both coal and gas fell sharply. Coal generation provided just 8.6% of the EU’s electricity mix in April 2024, its lowest share ever. It fell 7.3 TWh (-30%) compared to April 2023, when coal provided 12.3% of EU electricity.

Gas generation made up 12.1% of the EU’s electricity mix in April 2024, its lowest share in at least eight years. It fell 6.8 TWh (-22%) compared to April 2023, when gas provided 15.6% of EU electricity.

The low fossil generation also meant record low monthly power sector emissions in April 2024, at 38 million tonnes of CO2 (MtCO2). This is down 10% from the previous record set in May 2023 of 42 MtCO2.

In April 2024, fossil fuels produced less than a quarter of EU electricity for the first time

Share of electricity generation (%)

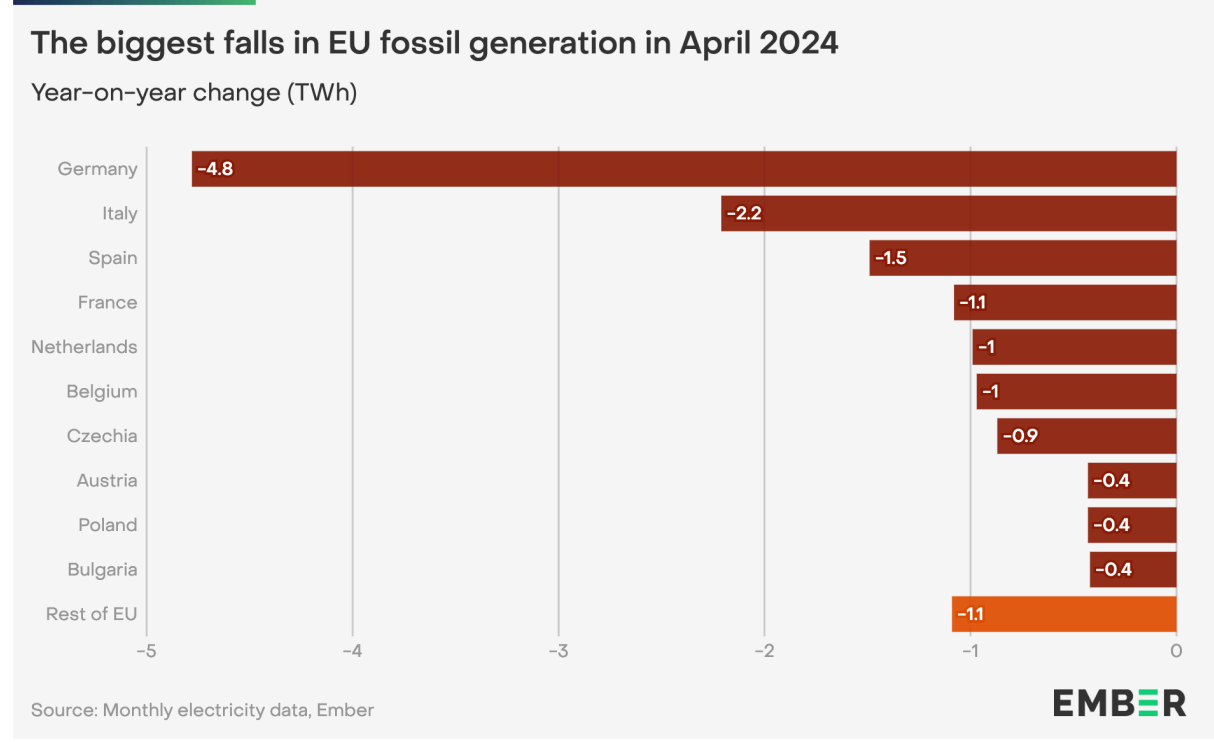


Source: Monthly electricity data, Ember

Fossil generation fell across the EU

Declines in fossil generation were recorded across the region. Germany saw the largest fall compared to April last year, at 4.8 TWh (-26%), representing 32% of the total EU fall. Seven lignite-fired power plant units with a combined capacity of 3.1 gigawatts were [closed in Germany at the end of March 2024](#). Italy was next, with a 2.2 TWh (-24%) fall, contributing another 15% to the total EU decline.

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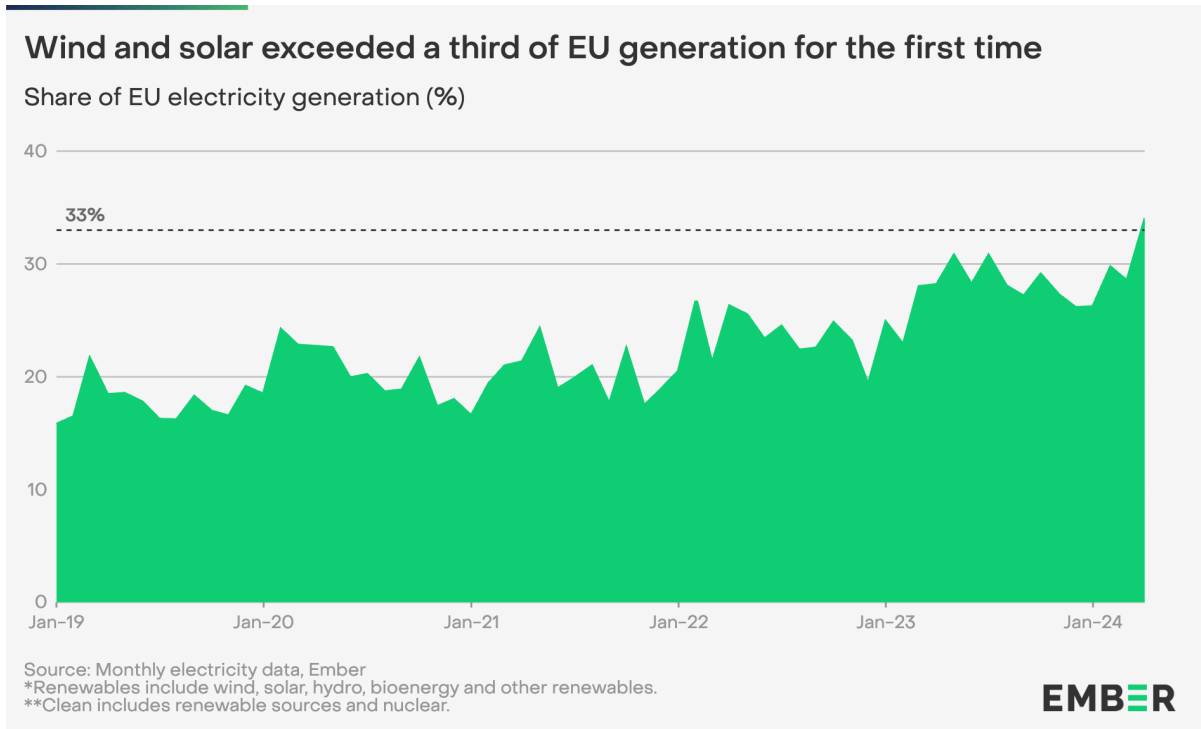
Wind and solar are spearheading the electricity transition

Wind and solar reached a record high in April 2024, generating more than a third (34%) of EU electricity for the first time. The previous record of 31% was set in May 2023.

Last year wind and solar generated 27% of the EU's electricity, for the first time surpassing a quarter, according to Ember's [European Electricity Review](#). The growth in wind and solar has continued to gather pace in 2024.

Wind and solar not only achieved their largest ever share of generation in April 2024, but also the highest total monthly output with 68 TWh, more than the entire annual electricity demand of Czechia or Austria. This was more than double the electricity generated from hydro in the EU, which produced 32 TWh. As a result, wind and solar accounted for 62% of all renewable generation in April 2024.

Overall, renewable sources produced over half of EU electricity in April for only the second time ever, and achieved a record 54% share. Following heat waves and droughts in previous years, hydropower output rose 28% (+6.9 TWh) compared to April 2023, increasing its share from 12.3% in April 2023 to 15.7% in April 2024.



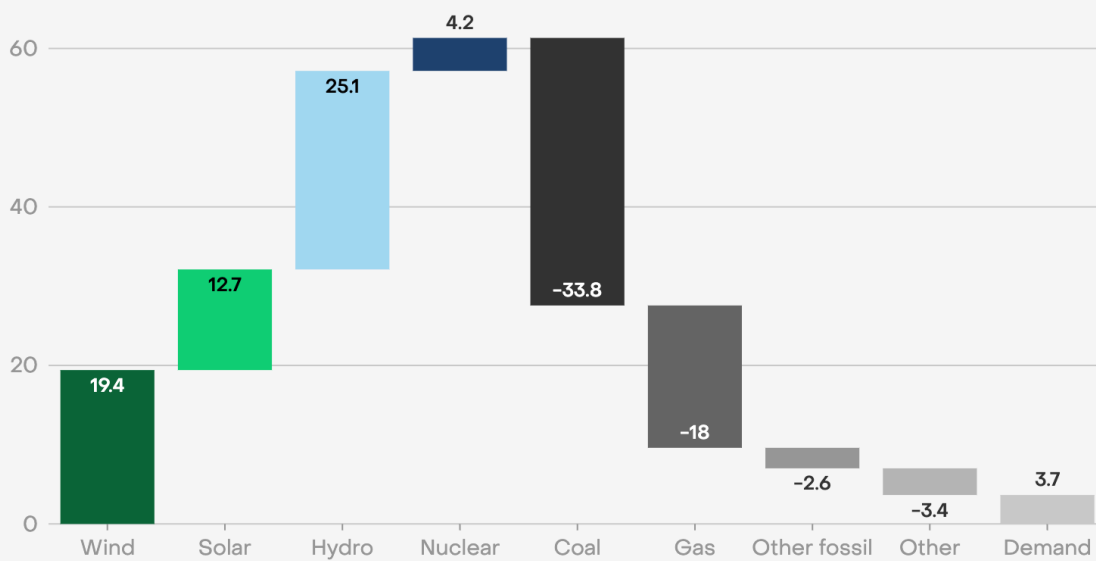
Emissions fall even as electricity demand continues its recovery

The records set in April are the latest evidence of a long-term trend of increasing clean generation and falling emissions in the EU. For the first four months of 2024, EU fossil generation is down 18% year-on-year.

The decline in fossil generation came despite the continued recovery of electricity demand, which has been on a mild revival since October 2023 and increased by 0.4% year-on-year over January-April 2023. Meanwhile, wind and solar generation was up 14% compared to the same period last year, with hydro generation increasing 25%.

Clean generation continued to displace fossil generation in the EU even as electricity demand is recovering

Change in generation Jan-Apr 2024 vs. Jan-Apr 2023 (TWh)



Source: Monthly electricity data, Ember
Other includes bioenergy, other renewables and net imports



With renewables displacing fossil fuels from the electricity mix, EU power sector emissions were down 18% year-on-year over January-April 2024.

This strong start to 2024 is further evidence that the European Union’s electricity transition is in full swing.

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