

Electricity in 2025: solar surges, gas influence fades, but volatility and weak demand persist

In 2025, record solar cut fossil use and emissions, gas influence fell. Weak demand and price volatility highlight the need for electrification and flexibility.

BRUSSELS, BELGIUM, January 2, 2026 /EINPresswire.com/ -- [Eurelectric data](#) shows that 2025



Stimulating electricity demand is key to stabilising markets, supporting industry and keeping decarbonisation on track"

Kristian Ruby, Secretary General of Eurelectric

marked a turning point for Europe's power sector - a year defined by contrasts and complexity. Record solar growth reduced reliance on fossil fuels and helped contain emissions, but persistent price volatility and weak electricity demand exposed the urgent need to accelerate electrification and scale up system flexibility to safeguard Europe's competitiveness.

The EU leaves behind a year marked by new decarbonisation milestones. According to Eurelectric

estimates, in 2025 power sector emissions stood at around 45% of 1990 levels, reflecting three decades of steady progress in decarbonisation. Yet momentum towards the EU's 50% renewables threshold slowed — showing that balancing rapid green growth with market stability and demand recovery remains a challenge.

Solar power was the clear standout performer. With a total generation of more than 340 TWh, solar reached [12.5% of the EU generation mix](#), the highest share ever recorded. Solar output rose by 60 TWh year on year - equivalent to Portugal's entire annual electricity demand. This surge helped offset declines in hydro (-13%) and wind (-4%) between 2024 and 2025. Nuclear remained stable at around 24%, continuing to provide reliable baseload, while fossil fuels generation was largely contained thanks to the surge in solar output.

Wholesale day-ahead electricity prices [averaged €88/MWh](#) in 2025 - below 2023 levels but slightly higher than in 2024. Prices were higher in the first half of the year due to weaker wind and hydro output, before easing in the second half as strong solar generation and lower gas prices improved market conditions.

Despite this moderation, price volatility persisted. Negative prices occurred in around 3.3% of hours, while price spikes above €150/MWh accounted for 9.3% of hours - well below 2022 levels but higher than in 2024 - reinforcing the growing need for system flexibility.

At the same time, electricity prices became less tied to fossil fuel costs. On average across the EU, around 74% of hours in 2019 saw power prices above the cost of gas-fired generation - a proxy for the influence of fossil fuels on power prices - compared with just 32% in 2025, showing how renewables can help decouple electricity prices from gas. Unlocking these benefits fully will require accelerated investment in storage and flexibility.

Electricity demand remained the sector's weakest point. Overall consumption in 2025 was broadly unchanged compared to 2024 yet remained around 7% below 2021 levels, reflecting an uneven and incomplete industrial recovery across countries, alongside continued efficiency improvements.

"Renewables are reducing Europe's exposure to fossil fuel prices, but weak electricity demand risks slowing investments. Stimulating demand is key to stabilising markets, supporting industry and keeping decarbonisation on track" said Kristian Ruby, Secretary General at Eurelectric.

"Additional flexibility - through storage, demand response and firm capacity - is also critical to reduce volatility" he added.

Europe is firmly on the path to greener energy, but the pace must accelerate. Electrification remains the most effective lever to cut emissions, yet demand growth is essential to unlock its full potential. At the same time, scaling up flexibility – through storage, demand response and firm capacity – will be crucial to stabilise prices and secure a competitive, decarbonised European economy.

Note to Editors:

Eurelectric represents the interests of the European electricity industry. We seek to contribute to our industry's competitiveness, provide effective representation in public affairs and promote the role of electricity in the advancement of society.

Chiara CARMINUCCI

Eurelectric

+32 476 87 15 75

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