

## PEES Power Systems

# Germany s solar power surplus



## Overview

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In May 2025, Germany's renewable energy oversupply pushed electricity prices into negative territory, with hourly rates hitting as low as -€250. This phenomenon, driven by record solar generation during sunny weekends, exposed critical weaknesses in grid. Germany has rapidly expanded its solar energy capacity by installing rooftop solar panels nationwide. This growth in renewables has decreased fossil fuel dependence and progressed sustainability aims. Solar energy production has exceeded domestic consumption during peak hours, pushing energy prices into. - Germany's 2025 renewable energy surplus caused record -€250/MWh prices, exposing grid flexibility gaps and market design flaws. In 2024 alone, around 17 GW of new photovoltaic (PV) capacity was added, which constitutes over 25% of the EU27 total added solar capacity that year. Germany is set to curtail the eligibility for solar energy subsidies as the country grapples with an oversupply of renewable power, a move that highlights the challenges in managing the costs of its energy transition. According to a draft law from the economy ministry, some solar power producers.

## Germany's solar power surplus

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### **gridX - How Germany's residential PV surplus can strengthen the grid**

In Europe, Germany is a solar power leader, but there is a growing discourse that an excess of small-scale PV (i.e. residential rooftop PV) is overloading the grid. Large PV is mostly controlled, although their load is ...

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### **Solar power in Germany - output, business & perspectives**

The strong expansion of solar power in Germany did not lead to increased support costs set under Germany's Renewable Energy Act (EEG), which researchers at the Institute of Energy Economics at the University of ...



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### **Germany's green energy surplus**

Germany is producing more solar and wind power than its electricity grid can handle. Green energy subsidy costs have meanwhile doubled - due to volatile power wholesale prices.



## Managing Surplus Solar Generation in Germany's Grid

As Germany pursues more renewables, managing both surplus generation and dunkelflaute shortfalls is critical. This article examines Germany's solar surplus issue, associated grid impacts, and ...



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## Germany's surplus solar power drives electric prices into negativity

Germany's surplus solar power drives electric prices into negativity. Germany has reached a remarkable milestone in its transition to renewable energy: the country now has so much solar power that its ...

## Germany's solar energy surplus outpaces demand, ...

Germany's solar power production has exceeded demand, leading to a significant drop in energy prices, even pushing them into negative territory.



## Germany's Solar Surplus: An Economic and Environmental Analysis

Germany's solar surplus exemplifies the complexities of transitioning to renewable energy. Although the environmental benefits are clear, addressing the economic and infrastructural challenges is ...

## Renewable Energy Overload Forces Germany to Pull The Plug On Solar

Germany is set to curtail the eligibility for solar energy subsidies as the country grapples with an oversupply of renewable power, a move that highlights the challenges in managing the costs of its energy ...



## Germany's Renewable Energy

## Oversupply: A Double-Edged Sword for



Germany's energy transition has long been a beacon for climate action in Europe. However, 2025 has revealed a paradox: while the country grapples with intermittent renewable shortfalls due to weather ...

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## Germany passes law to curb PV generation surpluses and negative ...

Germany is poised to introduce new rules aimed at removing electricity peaks and negative pricing associated with surplus generation of solar power.



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