

Solar eclipse: Preventive measures to limit the impact on solar power generation

According to Red Eléctrica's algorithm, this early sunset will reduce solar power generation in the Iberian Peninsula by approximately 5 GW.

Although it is not expected to affect demand coverage, the system operator will implement preventive measures.

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The upcoming solar eclipse on 12 August will temporarily affect solar generation, though to a limited extent—specifically photovoltaic (PV) output. The event will occur during a time window when solar generation is already naturally beginning to decline. As a result, the eclipse will bring forward and slightly intensify that reduction in generation. Furthermore, it will not overlap with the typical peak demand observed on August days, ensuring a limited overall effect on the electricity system.

Red Eléctrica has analysed the potential impact of the eclipse using a proprietary mathematical model developed specifically to study the influence of such astronomical events on the electricity system. This tool calculates obscuration curves by region to project their impact on power generation.

Based on current forecasts and the best data available to date, Red Eléctrica estimates a peak drop in solar generation of approximately 5 GW—representing about 13% of peak demand for a typical Wednesday in August. As with any solar PV forecast, the final impact may vary depending on the day's weather conditions—particularly cloud cover, which could alter the effect of the eclipse. Meanwhile, the phenomenon will have no significant impact on solar PV generation in the Balearic and Canary Islands.

Although this event is not expected to compromise demand coverage, Red Eléctrica will implement preventive measures in its role as system operator. These include close coordination with official bodies, other European TSOs, and national generation and distribution control centres, as well as boosting baseline reserves, strengthening safety margins, and maintaining continuous real-time monitoring of the event.