

Spain deploys 1.13 GW of solar for self-consumption in 2025

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Solar self-consumption capacity in Spain reached a cumulative 9.3 GW in 2025, according to data from the Spanish Photovoltaic Union (UNEF).

Spain added 1,139 MW of new self-consumption capacity during the year, representing a 3.7% slowdown compared with 2024. UNEF said the deceleration signals a phase of market stabilization following several years of rapid growth.

The residential segment accounted for 229 MW across 36,330 new installations, a year-on-year decline of 17%. UNEF attributed the contraction to the phase-out of tax incentives linked to energy-efficient home renovations and lower compensation for surplus electricity exported to the grid under deregulated market contracts.

UNEF said falling surplus compensation prices are reducing the attractiveness of oversized systems designed primarily for grid injection. As a result, demand is shifting toward installations optimized for

instantaneous self-consumption. The association is calling for revisions to the simplified regulated compensation mechanism to enable broader settlement of surplus energy and improve economic signals for small-scale systems.

The commercial segment installed 176 MW in 2025, down 15% from the previous year. Collective self-consumption remains limited despite its potential to optimize shared generation and demand. Industry representatives said pending regulatory updates are needed to enable aggregated management models, dynamic energy allocation, and an expansion of eligible self-consumption areas.

Industrial self-consumption installations totaled 679 MW, marking a slight increase compared with 2024. UNEF said growth in this segment is being driven by larger medium-voltage systems aimed at reducing electricity costs and partially covering electrified thermal demand. Project viability increasingly depends on tariff structures with a higher variable component and more streamlined permitting for medium-sized installations.

Off-grid installations reached 55 MW in 2025, reflecting growing uptake of hybrid solar-plus-storage systems in rural areas and locations without grid access. Battery integration in grid-connected installations also continued to rise, improving controllability of generation and supporting system flexibility.

UNEF said Spain will need to deploy an average of around 2 GW of self-consumption capacity per year to meet the 19 GW target set out in the country's National Integrated Energy and Climate Plan. Achieving that level will require regulatory stability, administrative simplification, and more effective integration of distributed energy storage.

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