SolarInnovate Energy Solutions

# Spain solar low voltage power supply system

## Overview

Is Spain's solar power a problem?

While it’s too early to blame any particular cause, there is reason to believe that Spain’s electric grid, which now produces the second-most solar energy in Europe (after Germany), has been weakened by its heavy reliance on solar. A few minutes before the blackout, some 60% of the electricity on Spain’s grid was coming from solar.

Can solar power weaken Spain's grid?

A few minutes before the blackout, some 60% of the electricity on Spain’s grid was coming from solar. Understanding how solar and wind energy weakens the grid requires understanding the physics of electricity, grid inertia, and what a University of Queensland professor has dubbed the “pressure cooker” effect of renewables.

Was Spain's April 28 blackout caused by a disconnected solar plant?

Some media outlets have speculated that Spain’s April 28 blackout may have been caused by a disconnected solar plant, but DNV grid analyst Andrea Mansoldo tells pv magazine that it was likely due to a combination of grid weakness and low-frequency oscillations.

What caused a power outage in Spain?

The cause of the outage is unclear. Portugal's grid operator has blamed a "rare atmospheric phenomenon" that caused "anomalous oscillations" in high voltage power lines in Spain. Spain's grid operator has yet to respond to that or provide an update on the cause. But it's unlikely whatever caused the outage was a single, localised event.

Does Spain's electricity grid run at 50Hz?

Keeping a grid running is a constant and highly complex balancing act. People outside a terminal at Lisbon Airport during the blackout. Pic: Reuters Spain's

mains AC electricity supply grid, like ours in the UK, runs at 50Hz. That frequency is based on the speed at which generating hardware such as gas and nuclear turbines spin.

Will Spain lose a 500 MW solar plant?

“Spain relies on a mix consisting of combined cycle gas, nuclear energy and renewables, which is not the best configuration to provide enough inertia to the whole system.” He argued that losing the entire capacity of a 500 MW solar plant is unlikely, as PV projects are more reliable than conventional power plants.

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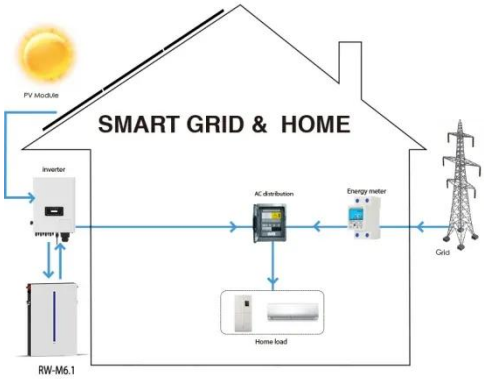
## Did Over-Reliance On Solar & Lack Of Grid Inertia Cause

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