

How a 10MW Solar + 5MWh BESS Project in Romania Comes Together

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Romania's solar build-out is accelerating, driven by EU recovery funds, rising wholesale prices and strong irradiation across the southern plains. Pairing a 10MW PV plant with a 5MWh battery energy storage system turns that sunshine into a dispatchable asset - here is how such a project comes together in practice.

1. Site and grid assessment

Everything starts with the grid-connection study: available capacity at the connection point, curtailment risk and local tariff structures. In Romania, connection queues make co-located storage especially valuable - the battery absorbs midday peaks that would otherwise be curtailed or exported at low prices.

2. System design

A 10MWp PV array is typically DC-coupled or AC-coupled to one or two containerized BESS blocks. With 5MWh of storage, the plant can firm two hours of rated output or shift roughly a third of daily generation into the evening peak, when Romanian day-ahead prices are highest. The EMS is programmed around the price curve, not just the clock.

3. Equipment and pre-commissioning

Factory-integrated containers - battery racks, PCS, EMS, HVAC and fire protection pre-assembled and pre-tested - arrive on site ready to drop onto concrete pads. For a 5MWh block this means days of installation work instead of months of field wiring.

4. Logistics and installation

Turnkey delivery covers export packaging, road transport, cranes, installation supervision and grid-connection support - one accountable partner from factory gate to energized plant.

5. Commissioning and operation

After grid-code compliance testing, the plant goes live under 24/7 remote monitoring. Intelligent alarms, performance reporting and warranty-backed service keep the asset earning for decades.

Why it matters: solar-plus-storage is becoming the default design for new Romanian PV - it raises revenue per MWh, reduces curtailment and strengthens the grid at the same time. MARWELL SOLAR delivers the full package: design, manufacturing, logistics, installation and commissioning.

