

PV Array Energy Calculator

Calculate PV energy results from a documented yield input supplied by PVWatts, SAM, measured data, or another site-specific resource. This is not a generic peak-sun-hours calculator.

Generated October 10, 2026

<https://www.elecatrix.com/solar-backup-power/pv-array-energy-calculator/>

Inputs

Input	Value	Unit
Array or project label	PV array A	
PV array DC nameplate	8	kWdc
Net site-specific yield	1400	kWh/kWdc-year
Model or weather version	PVWatts V8 / 2020 TMY or measured data	
Resource and loss note	Record tilt, azimuth, shading, losses, and station distance	

Results

Result	Value	Unit
Estimated annual AC energy	11200	kWh/year
Average monthly AC energy	933.3333	kWh/month
Average daily AC energy	30.6849	kWh/day
Net specific yield	1400	kWh/kWdc-year
Implied capacity factor	15.9817	%

Calculation details

Detail	Value	Unit
Calculation basis	Annual AC energy is array DC nameplate capacity multiplied by the entered net site-specific yield. Monthly and daily values are averages, not a simulated time series.	

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Model boundary

Planning estimate only; use a documented PVWatts/SAM model version, weather dataset, station/location, or measured production source for the yield input. This page does not approve equipment, interconnection, export, structure, wiring, or code compliance.

Formulas

$$E_{\text{annual}} = P_{\text{DC}} \times Y_{\text{site}}$$

$$E_{\text{monthly}} = \frac{E_{\text{annual}}}{12}$$

$$E_{\text{daily}} = \frac{E_{\text{annual}}}{365}$$

$$\text{Capacity factor\%} = \frac{E_{\text{annual}}}{P_{\text{DC}} \times 8760} \times 100$$

Warnings and limitations

This is a source-backed planning estimate, not a PVWatts/SAM simulation engine or production guarantee. Preserve the model version, weather source, station/location, orientation, shading, losses, inverter assumptions, and measured period separately.