

EV Solar Charging Calculator

Calculate allocated PV energy, EV-delivered energy, driving miles, and remaining grid energy from entered solar and EV assumptions.

Generated October 10, 2026

<https://www.elecatrix.com/solar-backup-power/ev-solar-charging-calculator/>

Inputs

Input	Value	Unit
Available solar energy	30	kWh/day
Solar allocation to EV	50	%
Charging efficiency	90	%
Vehicle efficiency	3.5	mi/kWh
Target EV energy	20	kWh/day

Results

Result	Value	Unit
Allocated solar energy	15	kWh
EV delivered energy	13.5	kWh
EV driving miles	47.25	mi
Remaining grid energy	6.5	kWh

Calculation details

Detail	Value	Unit
Calculation basis	EV solar charging screen allocates entered daily solar energy to an entered EV charging target.	
Review boundary	Energy planning only; no PV design, EVSE circuit sizing, interconnection, storage, utility export, or code approval is made.	

Formulas

allocated solar energy = available solar kWh x allocation percent / 100

EV delivered energy = allocated solar energy x charging efficiency percent / 100

estimated EV miles = EV delivered energy x vehicle miles per kWh

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grid energy needed = maximum of zero and target EV energy - EV delivered energy

Warnings and limitations

Energy planning only; this worksheet does not approve utility export or EV charging controls, PV design, EVSE circuit sizing, interconnection, storage design, or code compliance.