

Performance of off-grid PV system

PGIS-5 estimates of solar electricity generation

Provided inputs

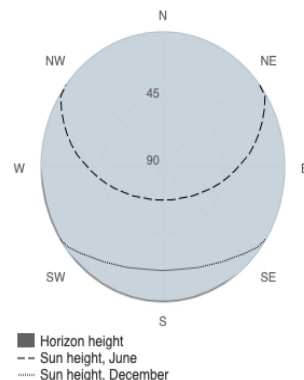
Latitude/Longitude: 44.799,10.329
Position: Calculated
Database used: PVGIS-SARAH3
Installed: 800 Wp
Battery capacity: 2400 Wh
Cutoff limit: 10 %
Consumption per day: 3000 Wh

Slope angle: 90 °
Azimuth angle: 90 °

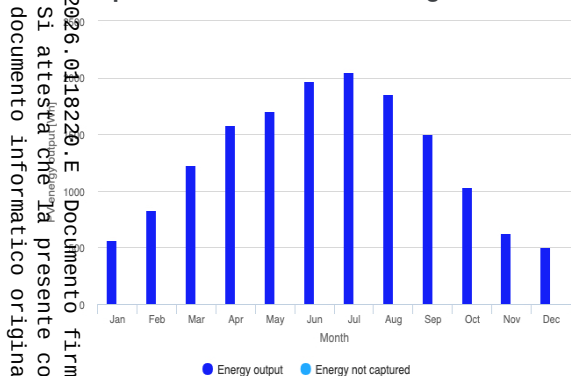
Simulation outputs

Percentage days with full battery: 0 %
Percentage days with empty battery: 99.99 %
Average energy not captured: 0 Wh
Average energy missing: 1711.15 Wh

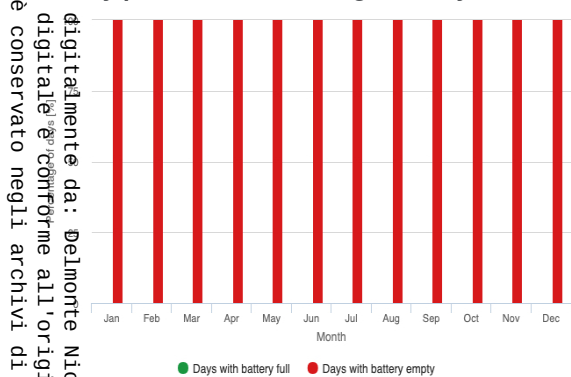
Outline of horizon at chosen location:



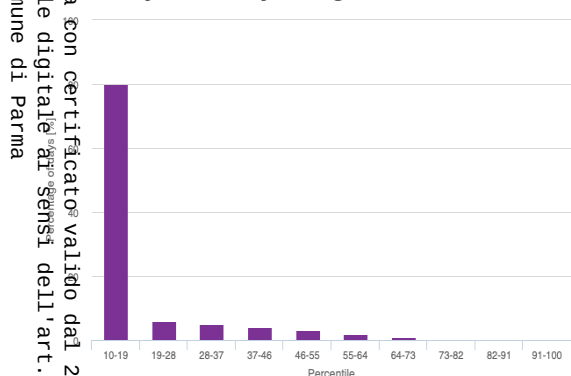
Power production estimate for off-grid PV:



Battery performance for off-grid PV system:



Probability of battery charge state at the end of the day:



Monthly average performance

Month	E_d	E_l	f_f	f_e
January	568.8	0.0	0.0	99.8
February	826.3	0.0	0.0	100.0
March	1232.2	0.0	0.0	100.0
April	1579.3	0.0	0.0	100.0
May	1703.5	0.0	0.0	100.0
June	1972.6	0.0	0.0	100.0
July	2046.5	0.0	0.0	100.0
August	1851.2	0.0	0.0	100.0
September	1497.4	0.0	0.0	100.0
October	1034.3	0.0	0.0	100.0
November	628.5	0.0	0.0	100.0
December	501.9	0.0	0.0	100.0

E_d: Average energy production per day [Wh/day].

E_l: Average energy not captured per day [Wh/day].

f_f: Percentage of days when battery became full [%].

f_e: Percentage of days when battery became empty [%].

Cs	Cb
10-19	80.0
19-28	6.0
28-37	5.0
37-46	4.0
46-55	3.0
55-64	2.0
64-73	1.0
73-82	0.0
82-91	0.0
91-100	0.0

Cs: Charge state at the end of each day [%].

Cb: Percentage of days with this charge state [%].

PVGIS ©European Union, 2001-2026.

Reproduction is authorised, provided the source is acknowledged, save where otherwise stated.

Report generated on 2026/04/16