

Performance of off-grid PV system

PVGIS-5 estimates of solar electricity generation

Provided inputs

Latitude/Longitude: 53.632,10.023

Horizon: Calculated

Database used: PVGIS-SARAH2

PV installed: 10 Wp

Battery capacity: 600 Wh

Cutoff limit: 40 %

Consumption per day: 300 Wh

Slope angle: 35 °

Azimuth angle: 0 °

Simulation outputs

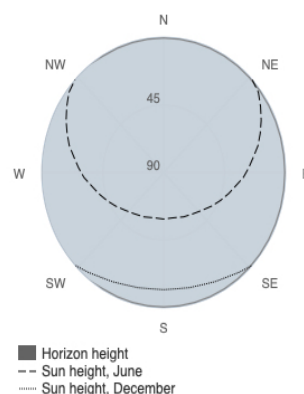
Percentage days with full battery: 0 %

Percentage days with empty battery: 99.98 %

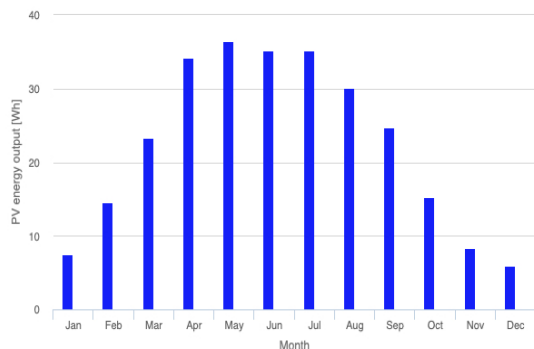
Average energy not captured: 0 Wh

Average energy missing: 277.37 Wh

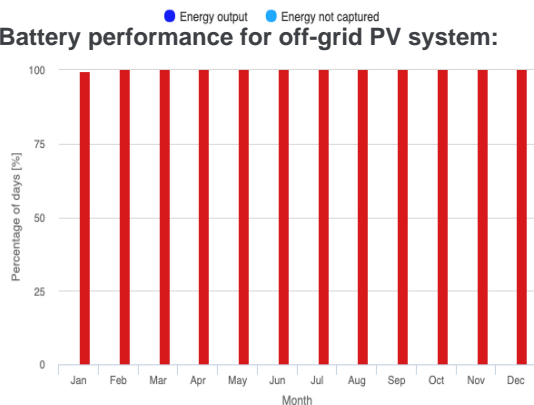
Outline of horizon at chosen location:



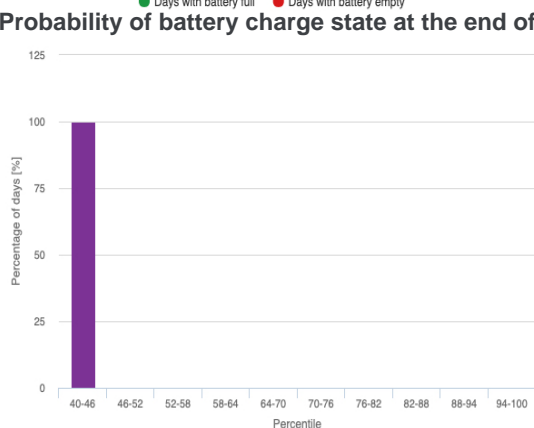
Power production estimate for off-grid PV:



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	7.5	0.0	0.0	99.8
February	14.6	0.0	0.0	100.0
March	23.3	0.0	0.0	100.0
April	34.2	0.0	0.0	100.0
May	36.4	0.0	0.0	100.0
June	35.2	0.0	0.0	100.0
July	35.2	0.0	0.0	100.0
August	30.1	0.0	0.0	100.0
September	24.8	0.0	0.0	100.0
October	15.3	0.0	0.0	100.0
November	8.3	0.0	0.0	100.0
December	5.9	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
40-46	100.0
46-52	0.0
52-58	0.0
58-64	0.0
64-70	0.0
70-76	0.0
76-82	0.0
82-88	0.0
88-94	0.0
94-100	0.0

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

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

The European Commission maintains this website to enhance public access to information about its initiatives and European Union policies in general. Our goal is to keep this information timely and accurate. If errors are brought to our attention, we will try to correct them. However, the Commission accepts no responsibility or liability whatsoever with regard to the information on this site.

It is our goal to minimise disruption caused by technical errors. However, some data or information on this site may have been created or structured in files or formats that are not error-free and we cannot guarantee that our service will not be interrupted or otherwise affected by such problems. The Commission accepts no responsibility with regard to such problems incurred as a result of using this site or any linked external sites.

For more information, please visit https://ec.europa.eu/info/legal-notice_en