

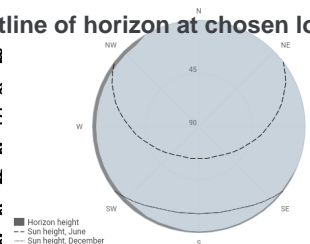
# Performance of off-grid PV system

PVGIS-5 estimates of solar electricity generation

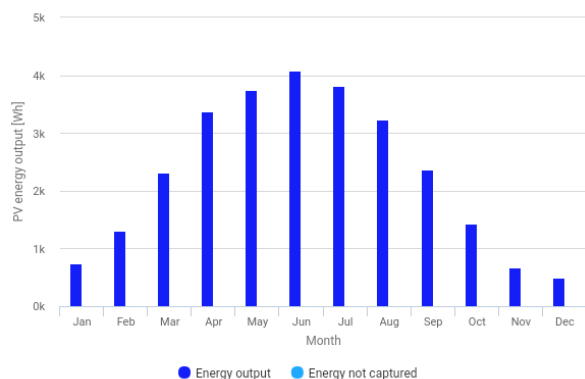
## Provided inputs

Latitude/Longitude: 40.8218  
Horizon: 45  
Database used: PVGIS-5  
PV installed: 1200  
Battery capacity: 1000  
Cutoff limit: 46  
Consumption per day: 9850

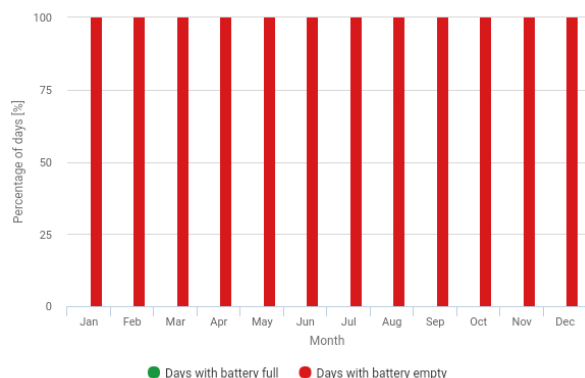
## Outline of horizon at chosen location:



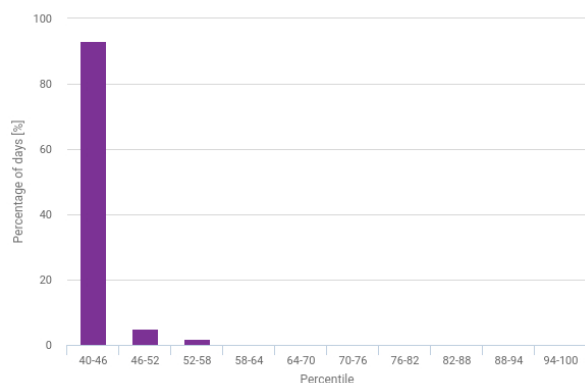
## Power production estimate for off-grid PV:



## 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	734.7	0.0	0.0	100.0
February	1312.9	0.0	0.0	100.0
March	2306.6	0.0	0.0	100.0
April	3366.1	0.0	0.0	100.0
May	3746.0	0.0	0.0	100.0
June	4089.2	0.0	0.0	100.0
July	3820.6	0.0	0.0	100.0
August	3239.1	0.0	0.0	100.0
September	2367.6	0.0	0.0	100.0
October	1424.5	0.0	0.0	100.0
November	679.1	0.0	0.0	100.0
December	491.2	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	93.0
46-52	5.0
52-58	2.0
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 [%].