Performance of grid-connected PV

PVGIS-5 estimates of solar electricity generation:

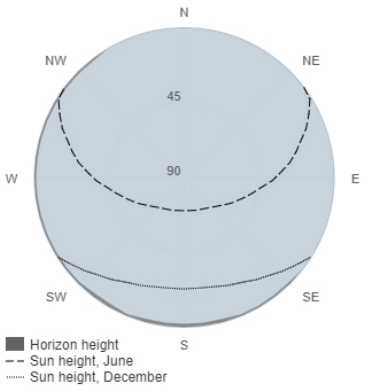
Provided inputs:

Latitude/Longitude:	43.124, 1.707
Horizon:	Calculated
Database used:	PVGIS-SARAH
PV technology:	Crystalline silicon
PV installed:	3 kWp
System loss:	2 %

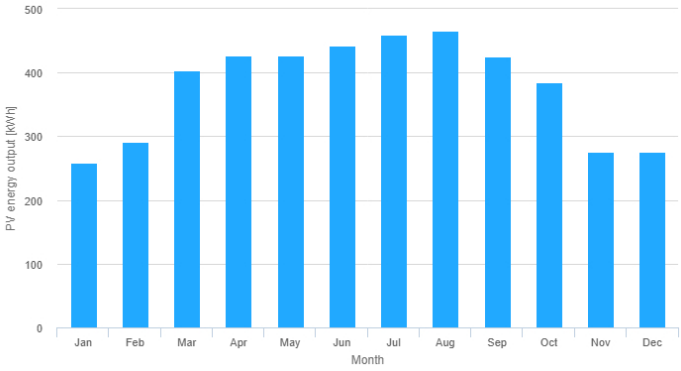
Simulation outputs

Slope angle:	38 (opt) °
Azimuth angle:	-1 (opt) °
Yearly PV energy production:	4540 kWh
Yearly in-plane irradiation:	1670 kWh/m²
Year to year variability:	174.00 %
Changes in output due to:	
Angle of incidence:	-2.7 %
Spectral effects:	1.3 %
Temperature and low irradiance:	-6.5 %
Total loss:	-9.7 %

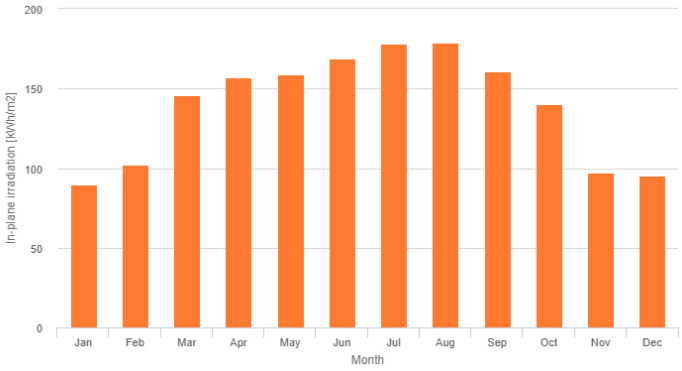
Outline of horizon at chosen location:



Monthly energy output from fix-angle PV system:



Monthly in-plane irradiation for fixed-angle:



Monthly PV energy and solar irradiation

Month	Em	Hm	SDm
January	259	90	43.8
February	291	102	47.9
March	403	146	56.5
April	427	157	49.5
May	427	159	37.3
June	443	169	33.5
July	460	178	24.9
August	466	179	29
September	425	161	28.6
October	385	140	42
November	275	97	50
December	275	95.2	57.2

Em: Average monthly electricity production from the given system [kWh].

Hm: Average monthly sum of global irradiation per square meter received by the modules of the given system [kWh/m²].

SDm: Standard deviation of the monthly electricity production due to year-to-year variation [kWh].

Joint Research Centre

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