

Performance of grid-connected PV

PVGIS-5 estimates of solar electricity generation:

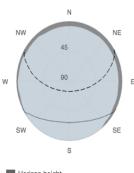
Provided inputs:

Latitude/Longitude:	38.689, 0.139
Horizon:	Calculated
Database used:	PVGIS-CMSAF
PV technology:	Unknown
PV installed:	0.6 kWp
System loss:	0 %

Simulation outputs Slope angle: Azimuth angle: Yearly PV energy production: Yearly in-plane irradiation: Year-to-year variability: Changes in output due to: Angle of incidence: Spectral effects: Temperature and low irradiance: Total loss: PV electricity cost [per kWh]:

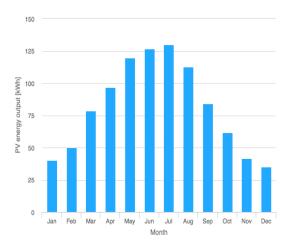
0 ° -179 ° 976.59 kWh 1832.49 kWh/m² 20.52 kWh -3.45 % NaN % -8 % -11.18 % 0.055 per kWh

Outline of horizon at chosen location:



Horizon height -- Sun height, June Sun height, December

Monthly energy output from fix-angle PV system:



Monthly PV energy and solar irradiation

Month	E_m	H(i)_m	SD_m
January	40.1	78.1	3.2
February	50.2	95.7	5.3
March	78.5	147.4	5.5
April	96.8	180.4	5.2
May	119.6	222.4	6.8
June	126.7	235.0	3.9
July	129.7	240.8	3.0
August	112.8	210.0	4.0
September	84.2	157.5	5.3
October	61.6	116.6	4.9
November	41.4	79.8	3.0
December	35.0	68.7	2.4

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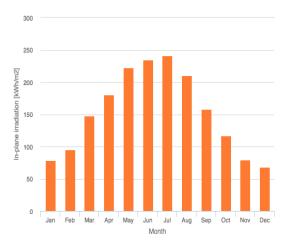
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Monthly in-plane irradiation for fixed-angle:



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

H(i)_m: Average monthly sum of global irradiation per square meter received by the modules of the given system [kWh/m²].

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

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Research Centre