Performance of grid-connected PV

PVGIS-5 estimates of solar electricity generation:

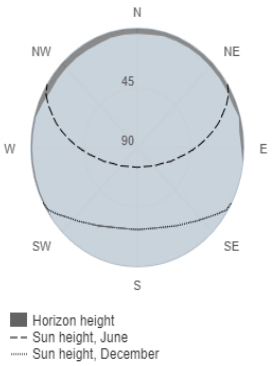
Provided inputs:

Latitude/Longitude:	37.743, -25.673
Horizon:	Calculated
Database used:	PVGIS-SARAH
PV technology:	Crystalline silicon
PV installed:	1.28 kWp
System loss:	14 %

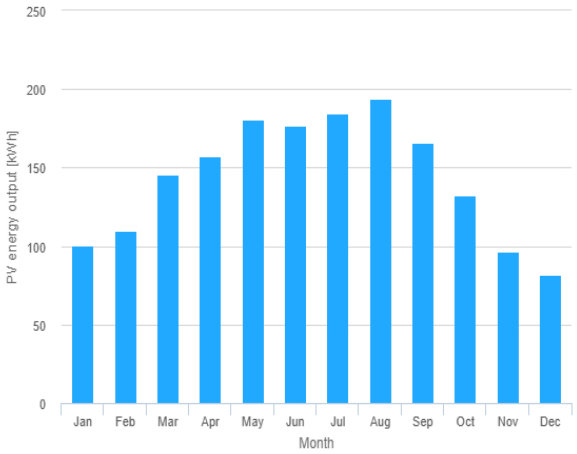
Simulation outputs

Slope angle:	31 (opt) °
Azimuth angle:	4 (opt) °
Yearly PV energy production:	1725.69 kWh
Yearly in-plane irradiation:	1627.36 kWh/m²
Year-to-year variability:	74.99 kWh
Changes in output due to:	
Angle of incidence:	-2.9 %
Spectral effects:	NaN %
Temperature and low irradiance:	-0.8 %
Total loss:	-17.15 %

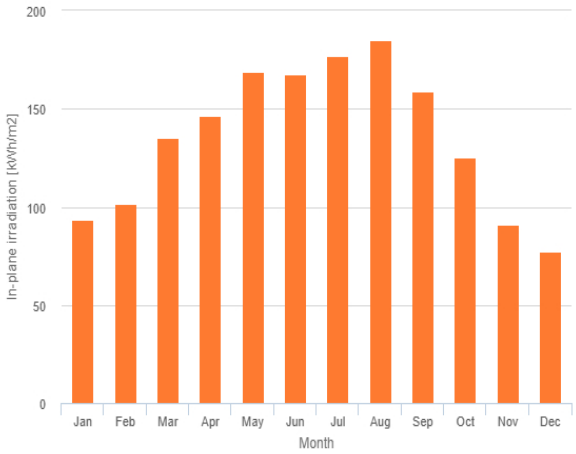
Outline of horizon at chosen location:



Monthly energy output from fix-angle PV system:



Monthly in-plane irradiation for fixed-angle:



Monthly PV energy and solar irradiation

Month	E_m	H(i)_m	SD_m
January	100.2	93.3	12.1
February	109.5	101.5	10.4
March	145.6	135.1	15.0
April	157.2	146.4	14.5
May	180.7	169.2	20.6
June	176.8	167.4	14.4
July	184.9	177.0	12.7
August	193.8	185.3	12.9
September	166.2	158.6	11.7
October	132.5	125.2	8.5
November	96.5	91.3	8.6
December	81.8	77.2	10.2

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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