Performance of grid-connected PV

PVGIS-5 estimates of solar electricity generation:

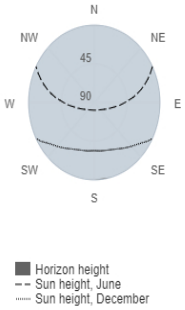
Provided inputs:

Latitude/Longitude:	32.222,-7.940
Horizon:	Calculated
Database used:	PVGIS-SARAH2
PV technology:	Crystalline silicon
PV installed:	1455 kWp
System loss:	8 %

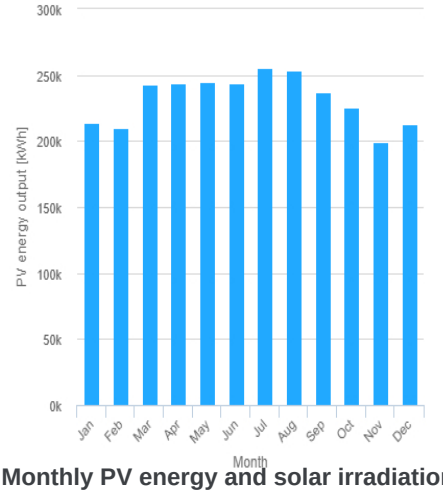
Simulation outputs

Slope angle:	31 (opt) °
Azimuth angle:	0 (opt) °
Yearly PV energy production:	2783343.22 kWh
Yearly in-plane irradiation:	2353.06 kWh/m²
Year-to-year variability:	65896.07 kWh
Changes in output due to:	
Angle of incidence:	-2.58 %
Spectral effects:	0.17 %
Temperature and low irradiance:	-9.45 %
Total loss:	-18.7 %
PV electricity cost [per kWh]:	0.439 per kWh

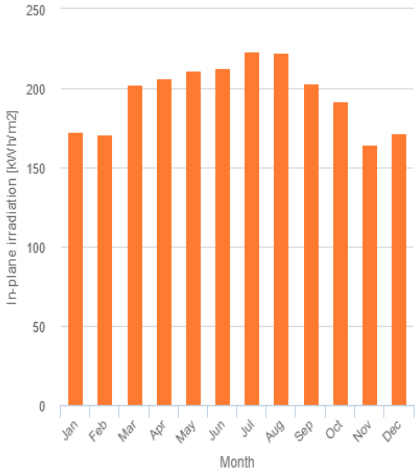
Outline of horizon at chosen location:



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	213577.8	172.4	18472.2
February	210095.1	171.1	21656.1
March	242849.2	202.1	13989.1
April	244046.2	206.7	10745.9
May	244874.2	211.1	14352.1
June	243525.4	212.6	8772.2
July	255104.2	223.7	5358.4
August	253865.2	222.3	7584.3
September	236889.2	203.3	9225.3
October	225636.2	191.8	11361.7
November	199745.9	164.2	16115.9
December	213132.5	171.8	13462.7

E_m: Average monthly electricity production from the defined 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].

Joint Research Centre

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