Performance of grid-connected PV

PVGIS-5 estimates of solar electricity generation:

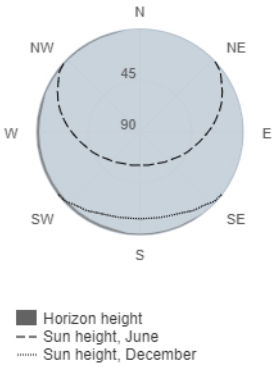
Provided inputs:

Latitude/Longitude:	52.408, 16.930
Horizon:	Calculated
Database used:	PVGIS-CMSAF
PV technology:	Crystalline silicon
PV installed:	9.52 kWp
System loss:	14 %

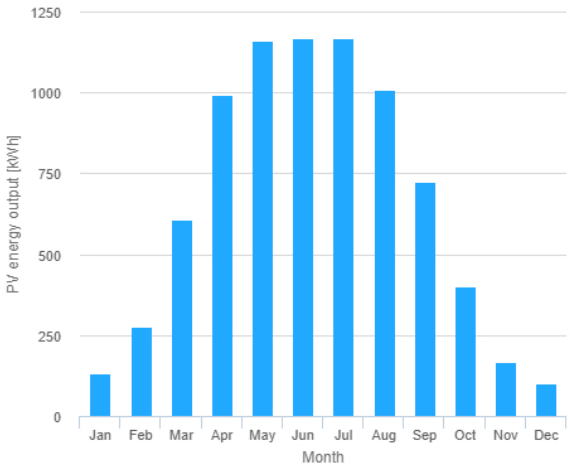
Simulation outputs

Slope angle:	35 °
Azimuth angle:	-90 °
Yearly PV energy production:	7920 kWh
Yearly in-plane irradiation:	1070 kWh/m²
Year to year variability:	282.00 %
Changes in output due to:	
Angle of incidence:	-3.6 %
Spectral effects:	1.6 %
Temperature and low irradiance:	-8 %
Total loss:	-22.5 %

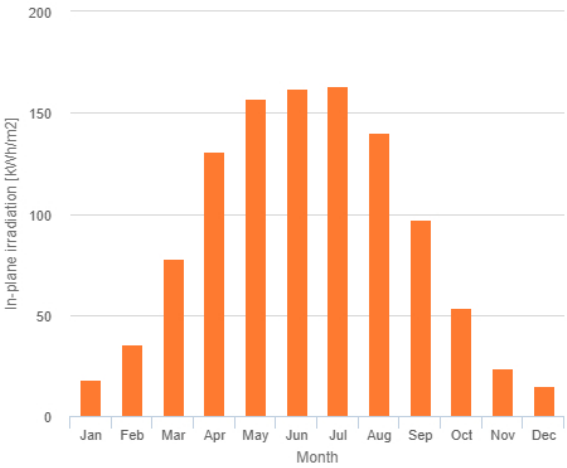
Outline of horizon at chosen location:



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	131	18.2	13.1
February	276	35.5	62.1
March	606	77.7	72.1
April	994	131	109
May	1160	157	152
June	1170	162	104
July	1170	163	137
August	1010	140	73.6
September	725	97.4	65.6
October	402	53.6	68.1
November	168	23.5	38.4
December	101	14.8	17

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

Report generated on 2019/10/17