Performance of grid-connected PV

PVGIS-5 estimates of solar electricity generation:

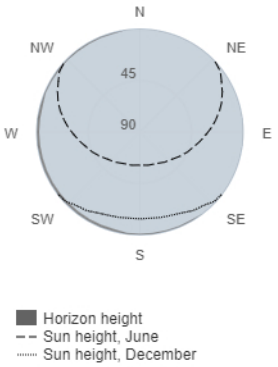
Provided inputs:

Latitude/Longitude:	52.408, 16.930
Horizon:	Calculated
Database used:	PVGIS-CMSAF
PV technology:	Crystalline silicon
PV installed:	4.76 kWp
System loss:	14 %

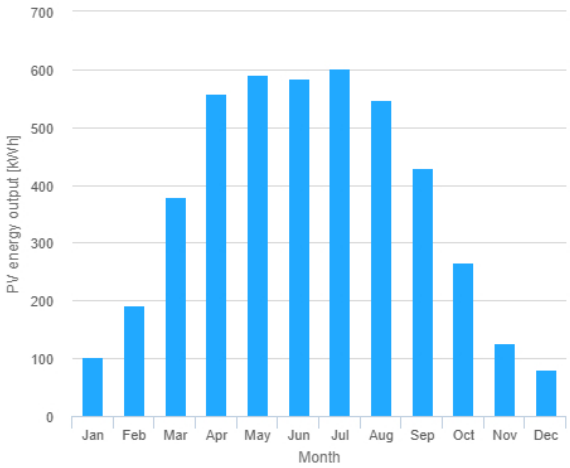
Simulation outputs

Slope angle:	35 °
Azimuth angle:	45 °
Yearly PV energy production:	4460 kWh
Yearly in-plane irradiation:	1210 kWh/m²
Year to year variability:	229.00 %
Changes in output due to:	
Angle of incidence:	-3.2 %
Spectral effects:	1.7 %
Temperature and low irradiance:	-8.5 %
Total loss:	-22.5 %

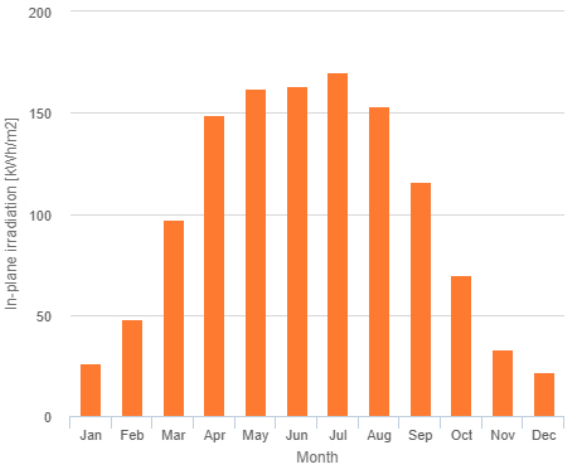
Outline of horizon at chosen location:



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	102	26.1	14.3
February	192	47.7	54.4
March	380	97.3	65.2
April	559	149	85
May	590	162	75.9
June	584	163	43.8
July	601	170	58.7
August	548	153	52
September	430	116	53.7
October	266	69.9	54.2
November	126	32.9	39.2
December	81.1	21.6	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