

# 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: 5.44 kWp  
System loss: 14 %

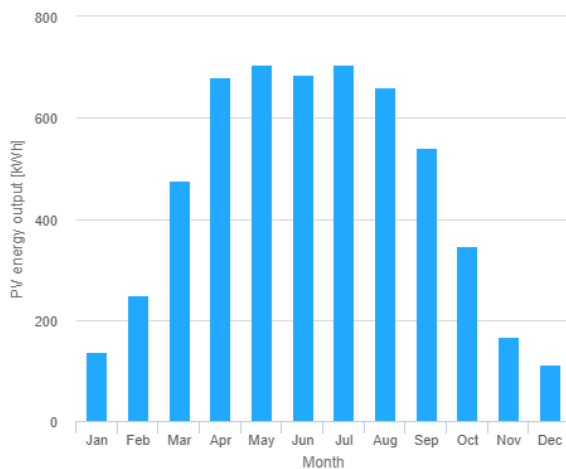
## Simulation outputs

Slope angle: 35 °  
Azimuth angle: 0 °  
Yearly PV energy production: 5470 kWh  
Yearly in-plane irradiation: 1290 kWh/m<sup>2</sup>  
Year to year variability: 285.00 %  
Changes in output due to:  
Angle of incidence: -3.1 %  
Spectral effects: 1.8 %  
Temperature and low irradiance: -8.2 %  
Total loss: -22.2 %

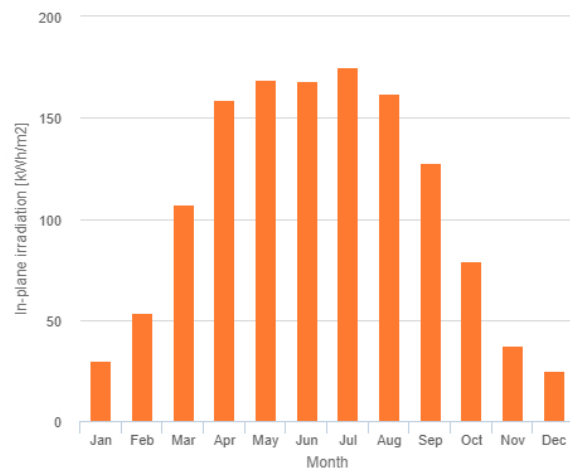
## Outline of horizon at chosen location:



## 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	136	29.7	20.2
February	250	53.8	75.3
March	477	107	85.7
April	681	159	98.4
May	705	169	95.9
June	686	168	56.2
July	706	175	74.1
August	661	162	64.9
September	541	128	67.7
October	347	79.1	75.1
November	167	37.6	55
December	111	25	25.4

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/m<sup>2</sup>].

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