

# Příloha 4

# Performance of grid-connected PV

PVGIS-5 estimates of solar electricity generation:

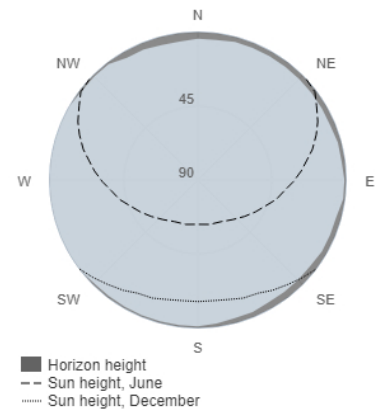
## Provided inputs:

Latitude/Longitude: 50.429, 15.612  
 Horizon: Calculated  
 Database used: PVGIS-CMSAF  
 PV technology: Crystalline silicon  
 PV installed: 4.64 kWp  
 System loss: 20 %

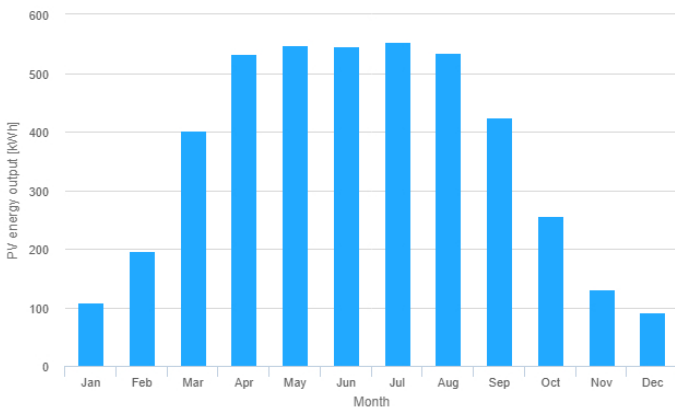
## Simulation outputs

Slope angle: 40 °  
 Azimuth angle: -23 °  
 Yearly PV energy production: 4320 kWh  
 Yearly in-plane irradiation: 1250 kWh/m<sup>2</sup>  
 Year to year variability: 214.00 %  
 Changes in output due to:  
 Angle of incidence: -3.1 %  
 Spectral effects: 1.6 %  
 Temperature and low irradiance: -5.1 %  
 Total loss: -25.2 %

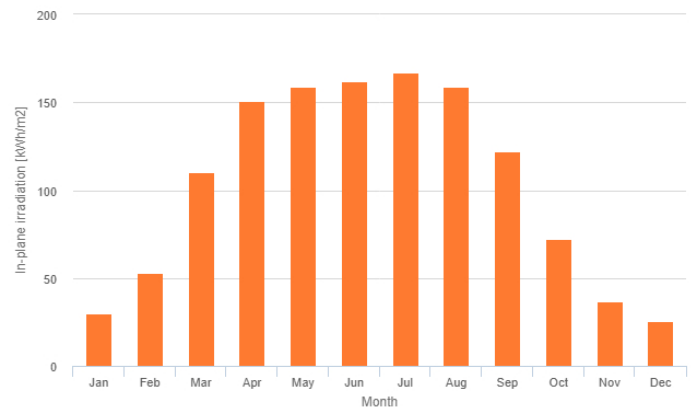
## Outline of horizon at chosen location:



## 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	109	30.1	18.6
February	196	52.7	58.1
March	402	110	63.9
April	532	151	85.6
May	548	159	85.1
June	546	162	41.1
July	553	167	43.4
August	534	159	49.4
September	424	122	50.2
October	257	72.3	51.4
November	130	36.6	25.1
December	91.9	25.6	15.9

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].